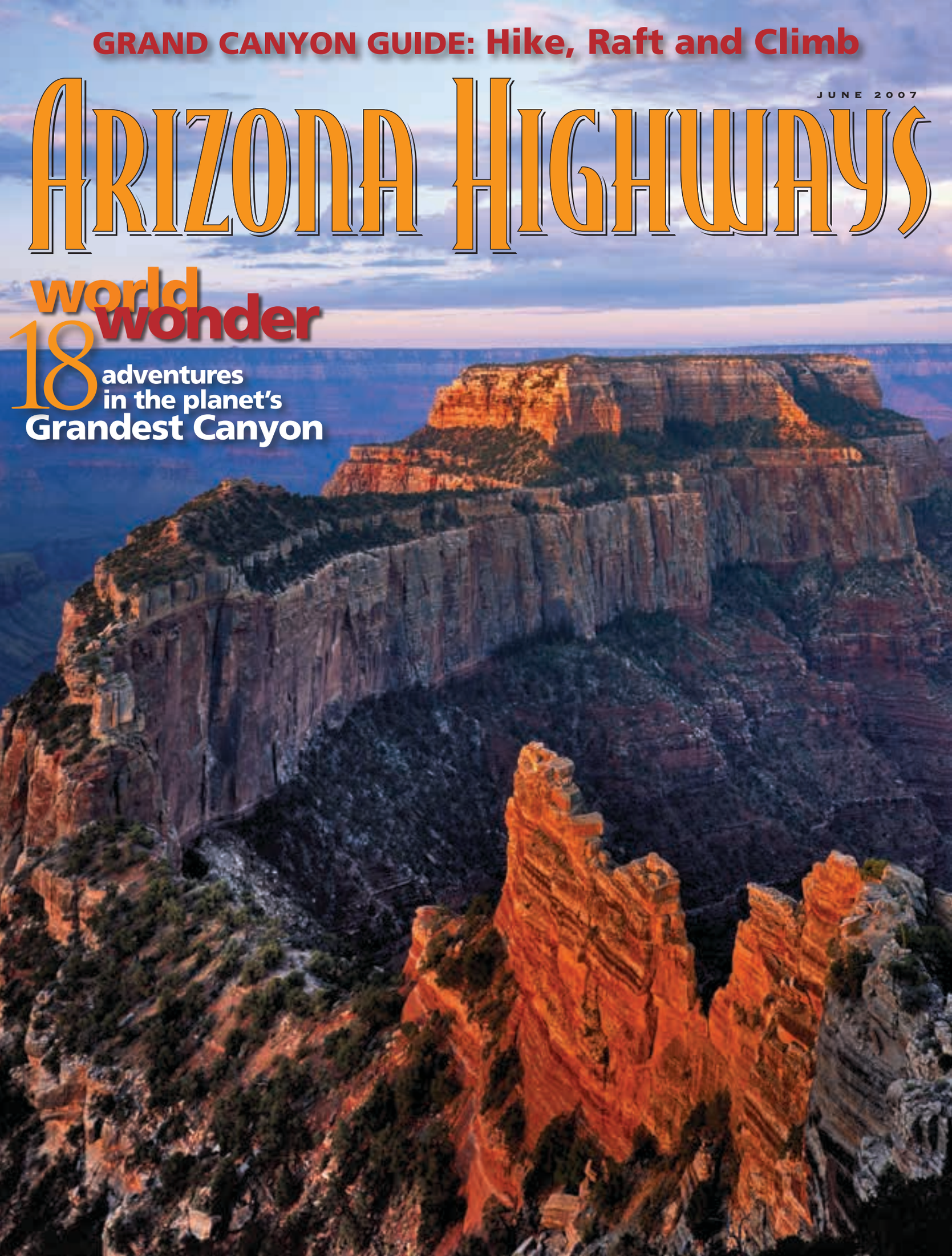
GRAND CANYON GUIDE: Hike, Raft and Climb

Arizona Highways

JUNE 2007

world wonder

18 adventures in the planet's Grandest Canyon



grand canyon guide

18 adventures in the planet's grandest canyon

Departments

NOT SO MERRILY A September monsoon downpour drenches kayakers and rafters paddling and rowing on a between-rapids stretch of the Colorado River in Marble Canyon, the watercourse entrance to the Grand Canyon. See story, page 44. GARY LADD
■ To order a print of this photograph, see information below.

FRONT COVER Captured at dawn from a North Rim vantage point at Cape Royal, Wotans Throne (background), with its 7,633-foot summit, is visible from most developed viewpoints on the Grand Canyon's rims. See story, page 28. GARY LADD
■ To order a print of this photograph, see information below.

BACK COVER With nary a Grand Canyon wall in sight, this ethereal wisp of a waterfall at Deer Spring evokes visions of wood sprites and nymphs rather than Colorado River runners and hikers. See story, page 8. LARRY LINDAHL
■ To order a print of this photograph, see information below.

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The Grand Canyon is so grand that one could float in outer space and still be in sight of it. When you look at it that way, nowhere on Earth seems too far away from Arizona's natural wonder. If you've never been, or even if you just visited last week, now is the time to get to the Grand Canyon. See where to go and what to do while you're there with our Roaming Rim-to-Rim and Grand Canyon Adventure guides. Visit arizonahighways.com and click on our June "Trip Planner."

HUMOR Our writer shares the secret of his seven-year, "14-day-diet" success.

WEEKEND GETAWAY Go shoe shopping on the Colorado River.

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dear editor

editor@arizonahighways.com

Gray Skies, Brilliant Flowers

Getting up early on a particularly gray, windy and very wet English morning, I switched my computer on and saw that the March 2007 digital edition of *Arizona Highways* had arrived. I was stunned by the wildflower section as the photographs are so beautiful. They almost brought tears to my eyes. It was a good reminder that in this world filled with so much turmoil, there is still a great deal of beauty around us. I am so thankful that the magazine has such dedicated and talented photographers who can produce such wonderful images that truly reflect this. It has certainly cheered me up, and somehow the weather outside doesn't seem to matter that much any more!

Barbara Holloway, Buxted, Uckfield, East Sussex, United Kingdom

Alas, we could have used your gray, wet and windy weather this year. But we had only a little winter rain and so few spring flowers—except on the pages of the magazine. —Peter Aleshire, Editor

Reflections on Lake Powell

I just received the March '07 issue and wanted to send you a picture of where I put my mom's ashes near Halls Crossing. I read your column, "The Eternal Choice—Fish or Take Pictures." Lake Powell is bittersweet for me as it's the last place my mom was on this Earth before her plane went down. She adored Lake Powell and spent many trips there. After I put her ashes in the stream, a huge rock fell and I knew then that it was the right place for her to be, eternally.

Tina Olley, Champion, NY

The Lure of a Shapely Silhouette

The February 2007 "Memory Lane," ("Back Road Adventure") triggered a personal memory. In the 1950s, I traveled the Southwest. After two weeks on the road in August 1958, I left St. John's on U.S. Route 180—sans air conditioning, with a furnace wind blasting through the car's open windows. On the radio the Four Preps sang "26 Miles." I glimpsed a tiny sign with a shapely female silhouette tacked to a power pole. "For Men Only," it said. I wondered. The sign flashed by again, and every few miles there was another one. The Preps sang of "romance, romance, romance, romance." My imagination flowered. Down the main drag in Holbrook, there was that sign, now life-sized, hanging over the sidewalk. It was a haberdashery (sigh).

Roy F. Wilson, Sequim, WA

Never underestimate the thrill of a good suit. —Ed.

Friends of the Agua Fria

Thank you for covering the Badger Springs hike, "Rock On," as your February 2007 "Hike of the Month."

Part of the Agua Fria National Monument, Badger Springs is an important archaeological site as well as a critical riparian area for a myriad of species, including pronghorn and migratory birds. The close proximity of the monument to population centers (metro Phoenix and Flagstaff) makes it an ideal area to enjoy for many.

Unfortunately, the monument's resources are threatened by reckless use, causing damage to these critical habitats and archaeological sites. With just one ranger to patrol 71,000 acres, managing this special area is a challenge.

The Friends of the Agua Fria National Monument (www.aguafriafriends.org) work to ensure that the monument's sensitive resources are sufficiently protected. It is vitally important that responsible users like your readers help offset the damage caused by rogue users. We look forward to seeing your readers out on the monument!

Wanda Kolomyjec, Outreach Coordinator
Friends of the Agua Fria National Monument

Birdlady's Tangled Web

Oh, what a tangled web we weave when first we practice to bird feed. Your criminally humorous article, "Revenge of the Birdlady" (March '07, "Along the Way"), brought me to tears. Tears of laughter and tears of remorse for the bear that we lost.

Dave Nolte, Florissant, CO

You're right—so many tangled weaves, so few bears. But then, so many wonderful readers. —Ed.

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all who wander

by Peter Aleshire, editor

The Gift of the Canyon

An endangered fish and a bemused writer seek deep lessons

STANDING HIP DEEP ATOP SLIPPERY ROCKS washed by the milky blue Little Colorado River, I watched the prehistoric monster wriggle in the net.

Glenn Dorster, field biologist with the Arizona Game and Fish Department, cheerfully plucked the misshapen humpback chub from the net and plopped him down onto his portable fish scale, determined to help an ancient survivor hang on a little longer.

The chub and other unique desert river fish thrived in the Colorado for at least 4 million years, despite the river's cataclysmic floods and late-summer trickles.

Then soaring dams turned the great river into a chain of reservoirs that now sustain Los Angeles and Phoenix. Instead of carrying tens of millions of tons of mud a year through the Canyon and generating 100,000-cubic-feet-per-second (cfs) floods, the river now runs a reliable 5,000 to 25,000 cfs year-round and gets its sediment mostly from a few tributaries like the Little Colorado and the Paria rivers.

The changes have wiped out most of the Canyon's native fish species, including the 6-foot-long predatory Colorado squawfish. Others, like the humpback chub, endure in one or two tributaries. Biologists have lately turned to an expensive, possibly doomed effort to save the survivors with minifloods and efforts to trap trout along certain stretches of river.

As we assembled this special Grand Canyon issue, I recalled that trip and the chub and realized that the fish's predicament captures a lot about human beings' complicated relationship to this great canyon. The editors set out to crowd the wonders of the Canyon all into one issue, as you can see from the map below that pinpoints the locations of the stories.

We offer a search for the source of mystical North Rim waterfalls, a geologist's view of superb scenery, the heartening return of the condors and the revealing adventures of a river guide, a photographer, a mule skinner and others who love this stunning landscape.

But holding the issue in my hands, I realize it's all hubris. Who can fit the Canyon onto a few sheets of paper? Who can "save" a species older than his own by manipulating the ecology of a river?

Instead, I again dimly sense the lesson of the Canyon.

Its oldest rocks date back to when life was but a smudge of green slime. All of our great striving on the planet equals just a thin layer of rock teetering atop a sequence a mile deep. The ugly fish in my hands and I can only savor our little bit of time, but the Canyon continues.

So perhaps we need not worry if we cannot fit the whole Canyon onto these pages. It is ambitious enough just to offer this glimpse, a quick wriggle through a river that flows finally to the sea.

editor@arizonahighways.com

by Peter Ensenberger, director of photography, photodirector@arizonahighways.com

Best Campsite in Arizona Revealed

FOR ALL THE MARBLES From Marble Viewpoint's high perspective, the prominent landmark of Navajo Mountain provides orientation for the rest of the Paria Plateau's heroic landforms. PAUL GILL

I KNOW THE LOCATION OF THE BEST CAMPSITE IN ARIZONA.

Okay, Arizona has more than its fair share of great campsites and dramatic viewpoints, and claims of "best" can be purely subjective. But this spot is the lodestone of camps by anyone's criteria. And, as a bonus, it comes with a complementary view to eternity.

Discovering these rare spots is one of my favorite pursuits. Standing on a lofty overlook with a majestic landscape spreading out below makes me feel at once infinite and infinitesimal. I covet the places where I can watch the interaction between light and land, and raise a toast to the day as shades of magenta fade from the western sky.

The Grand Canyon is legendary for such places. For years, my favorite backcountry campsite was Cape Final on the Canyon's North Rim. My wife and I made annual pilgrimages there every Fourth of July. Driving through old-growth forest on our way to camping nirvana each year, we stressed about the possibility that someone might already occupy our spot. But invariably it stood empty and waiting.

The seclusion we enjoyed there year after year always surprised us. Being so alone in a national park during peak summer visitation was a large part of Cape Final's allure. We delighted in the annual ritual of picking up our camping permit in the backcountry office and hearing the ranger say, "I hope you know how to find Cape Final, because I can't tell you how to get there." And we'd smile each time we heard those words.

Lasting memories of our time spent at this idyllic wilderness retreat include unforgettable moments watching a pair of peregrine falcons stooping for swifts off Cape Final's rocky point. We stood stupefied by the masterful hunting skills of the fastest creature on the planet. The falcons repeatedly rode updrafts to incredible heights before folding their wings in headlong dives, whistling past us like avian missiles at 200 miles per hour toward their unsuspecting prey. It all played out with an awe-inspiring Grand Canyon backdrop.

Even with these warm underpinnings, and forever holding a soft spot in my heart, Cape Final must give way to my new "best" campsite. There are people who won't be happy with me for divulging this secret, but here goes.

It's Marble Viewpoint in the Kaibab National Forest. This prime real estate offers all the amenities that make a wilderness camp great.

For starters, it's nearly 9,000 feet in elevation. But this promontory hasn't always enjoyed a penthouse view. Fossils strewn across the ground tell the story of its previous life as a sandy seabed before the great uplift 35 million years ago that diverted the ancestral Colorado River and led to the birth of the Grand Canyon. Few places scatter seashells so close to the stars.

If one word can describe Marble Viewpoint's panorama, it is "sublime." Eighty miles away and seemingly on the edge of the Earth, Navajo Mountain provides a point of reference for heroic landforms arrayed in all their glory across the Paria Plateau: House Rock Valley, Vermilion Cliffs, Saddle Mountain Wilderness, Echo Cliffs and Marble Canyon, from which this viewpoint takes its name.

The Forest Service notes that Marble Viewpoint hosts 10 campsites. When I go there to camp, there's really only one. It's tucked back against the forest edge protected from the wind and shaded by a giant ponderosa pine. Facing east, it gathers the first warmth of sunrise, welcomed on cold mornings even in summer.

I'd tell you how to get to Marble Viewpoint, but writer Anne Minard has taken care of that in this month's Back Road Adventure, "Quiet Splendor," beginning on page 54. She confirms my beliefs about this unique and special place.

I don't want to be guilty of piling it on, but here's one more reason Marble Viewpoint tops my list: no camping fees. And certainly no reservations accepted. It's strictly first come, first camped.

So if you go to Marble Viewpoint, you'd better get there early if you want the best campsite in Arizona. Or you might find me already nestled under that giant ponderosa. AH

online **Find expert photography advice and information at arizonahighways.com (click on "Photography").**

Father and Son Create a 'Mystery of Grand Canyon'

In a timeless scene that is often repeated, a young boy sits on the Rim of the Grand Canyon and poses for a photograph as he contemplates the vista laid out before him. Only this time, it's not just any boy and it's not just any photographer.

In this photograph, circa 1950, then-10-year-old David Muench perches on Lipan Point at the Canyon's South Rim, gazing at a snippet of the Colorado River coursing between Canyon walls. The man behind the camera was David's father, Josef Muench, who was a prolific contributor to *Arizona Highways* from the 1940s to the 1980s and who helped shape the photographic style of the time. Josef titled this photograph "Mystery of Grand Canyon."

Young David was a frequent subject in his father's photographs, often playing a bit part by adding scale and a human element to the sweeping Arizona landscapes made famous in the pages of the magazines, books and calendars published by *Arizona Highways*. But within a few years, David developed a strong interest in getting on the other side of the camera. Of course, he went on to carve out his own photographic style and a long, successful career as one of the top landscape photographers in the world.

This is a story that's ongoing, as David Muench continues to capture the beauty of Arizona and publish photographs in the pages of this magazine. But it all started with a young boy's wanderlust, tagging along with his father on photography trips, capturing the form and beauty of magical landscapes. And often lending his own form to one of his dad's photographs.

—Peter Ensenberger


Grand Canyon Railway locomotive

Grand Canyon Icon Still on Track

NOTHING LASTS FOREVER, but don't tell that to the Grand Canyon Railway. The little engine that could have flat-lined several times over the past century has stayed on track to become Arizona's leading locomotive. An idea that got rolling in the late 1800s as a means of transporting ore from mines north of Williams, the railway fell on hard times when the lodes failed to live up to prospectors' great expectations. In 1901, the Santa Fe Railway, in partnership with the Fred Harvey Co., took over the tracks and had a successful 67-year-run with Grand Canyon tourism, until visitors abandoned the train cars in favor of automobiles.

In 1989, the ailing railway made a miraculous recovery after it was purchased and restored by Paradise Valley residents Max and Thelma Beigert, who reintroduced the novelty of train travel to a new generation of tourists. GCR's scenic steam-and-diesel journeys to the Grand Canyon and the wildly popular Polar Express holiday ride have made it one of the state's favorite attractions—something many feared would be lost after the Beigerts announced their intention to sell the train in 2006. Earlier this year, Xanterra Parks and Resorts announced it would purchase the GCR and add it to the company's Grand Canyon National Park operations. And so it seems the beloved locomotive will keep chugging along well into the future, full steam ahead.

—JoBeth Jamison

Dirty Devil Leads to a Bright Angel

THE VIEW FROM THE NORTH RIM where Bright Angel Creek begins its precipitous descent to the Colorado River is heavenly, but it owes its shiny name to a devil. The creek runs down a major north-south fault system near the South Rim Visitors Center. Grand Canyon explorer Maj. John Wesley Powell named it during his epic trip down the river in wooden dories in 1869. He was apparently trying to make up for the name he slapped on an upstream tributary—Dirty Devil Creek. How very yin and yang of him.


Bright Angel Creek


Havasu schoolhouse before the 1910 flood

A Noah-sized Flood

THOUSANDS OF HIKERS make the 11-mile trek to view the falls of Havasu Creek. It's a safe bet few of them read the signature of darker waters that once visited these gorges.

Six miles down from the trailhead at Hualapai Hilltop, in a shallow alcove where the trail begins its final descent to the valley floor, hides a collection of graffiti. Look among them and you'll see the characters, "Jan. 2, 1910"—the number 1 written old-style, resembling a 7.


Havasu schoolhouse after the 1910 flood

Schoolmaster Charles Coe inscribed them the morning he and his wife, Effie, fled the maelstrom that had swept down and marooned them atop Havasu's schoolhouse all night as it slowly gave way to the nightmare pouring by on its way to the Colorado River.

The 1910 flood represented what city planners like to call a 500-year event—one that obliterated the Havasupai settlement which once stood at the junction of Havasupai and Hualapai canyons, and forever changed the lives of the people who lived there. To appreciate its dimensions, walk a hundred or so yards back up Hualapai Canyon from the inscription to a 3-foot boulder beside the trail. Look up at the cliff opposite the boulder. Wedged in a crack about 30 feet above lies a tree trunk placed there 97 years ago by the raging waters. Imagine trying to keep your head above that.

—Stephen Hirst

THIS PAGE, CLOCKWISE FROM TOP LEFT: JEFF KIDA; LIBRARY OF CONGRESS, NATIONAL ARCHIVES (2); GARY LADD


Capt. John Hance

TRIMBLE'S TALL TALES

CAPT. JOHN HANCE ARRIVED at the Grand Canyon in the early 1880s and built the first reliable trail for tourists. But Hance's real claim to fame was yarn-spinning, and he was the best. He once told tourists a tale about the time thick clouds filled the Canyon from Rim to Rim.

"Why them clouds was so thick," Hance said, "that I rode my horse, Darby, atop 'em all the way to the North Rim. But on the way back, them clouds began to thin out and me and ol' Darby got stranded on top of Zoroaster Temple." Invariably someone would ask, "How did you get off Zoroaster Temple and back here?"

"Well," Hance drawled, "by that time me and Darby had lost so much weight he was able to pitty-pat across them thin clouds without fallin' through."

—Marshall Trimble, Arizona State Historian

Grand Canyon Association Celebrates 75 Years

IN 1932 WHEN Grand Canyon National Park's chief naturalist Eddie McKee formed the Grand Canyon Natural History Association, he signed up 132 members and had a budget of $5,792. Seventy-five years later and 9,000 members strong, the Grand Canyon Association stays true to its original mission: "To cultivate knowledge, discovery and stewardship for the benefit of Grand Canyon National Park and its visitors." The association operates six bookstores within the park, publishes books and information about the Grand Canyon and surrounding areas, operates an outdoor program that leads educational trips into the park, sponsors lectures, hosts changing art exhibits at Kolb Studio, restores historic buildings and supports research in the park. Today, GCA donates almost $2 million annually to Grand Canyon National Park, which has amounted to more than $26 million over the years. No doubt, Eddie McKee would be proud.

Information: www.grandcanyon.org/aboutus.asp.

—Marilyn Hawkes


Grand Canyon Field Institute

Exploring Outer Space, Geologically Speaking

WHEN THE TENACIOUS ONE-ARMED CIVIL WAR VETERAN Maj. John Wesley Powell explored the treacherous spaces of the Grand Canyon during his famous Colorado River boating expedition, he couldn't have known that his legacy would one day lead to the heavens. Powell's discoveries and maps of the Canyon later became the foundation of the U.S. Geological Survey (USGS), which was established 10 years after Powell's 1869 journey. And even though Powell is regarded as the "father of the USGS," he might have been surprised that the wooded mountains at Flagstaff would become the headquarters for USGS studies of a different kind—of deep space.

Established in 1963, the Flagstaff Field Center opened as the headquarters for astrogeophysics and celestial mapping. There, USGS astrogeologists determined the site for the 1969 Apollo moon landing. More recently, they've mapped the surface and subsurface of Mars and Venus, charted the orbits of more than 30 meteorites and asteroids, and continued the study of planetary geology.

"John Wesley Powell always referred to his trip through the Grand Canyon as one of the most thrilling and defining times of his life," said Gordon Eaton, past director of the USGS. Right now Powell's probably boating the Milky Way—with two good arms.

—Carrie M. Miner

Drive-thru Canyon

THE AWARD FOR DUMBEST DRIVER in the history of the Grand Canyon goes to (drum roll, please) L. Wing of Los Angeles who, in 1914, drove his Metz Roadster to the bottom of the Canyon along what then amounted to a rough trail down to Peach Springs. Boasting an impressive 22-horsepower engine, the roadster somehow negotiated the deep sand, steep grades and axel-hungry boulders to descend the vertical mile to the Canyon bottom.


L. Wing and his Metz Roadster

THIS PAGE, CLOCKWISE FROM TOP LEFT: GRAND CANYON NATIONAL PARK MUSEUM COLLECTION (GCNPMC); MIKE BUCHEIT; GCNPMC; LINDA LONGMIRE

Falling for Falls

Remote North Rim Trail Plunges Down to the Canyon's Most Mystical Waterfalls

TEXT AND PHOTOGRAPHS BY LARRY LINDAHL

MAIDS OF THE MIST As though poured forth from rocky nooks and crannies, verdant maidenhair ferns adorn an 8-foot Deer Creek waterfall above a slot canyon.

To order a print of this photograph, see page 1.

DEEP IMPACT

Stone Creek waterfall spills through a slot of Shinumo quartzite (far left). In an area lush with cottonwood leaves (left) and perennial green plants, an artist indulges in a stream of creativity near the base of Deer Falls (below right).

To order a print of the photograph at left, see page 1.

We set out on our quest for the most spectacular and mystical of Grand Canyon waterfalls in the early morning light of a June day, seeking enchanted waters, sacred places and a perilous challenge.

I had dreamed of the journey for years, trying to imagine how it might feel to crawl inside the dark and mysterious cave where Thunder River emerges from a dangerous cliff to hurl itself into the sunlight and plummet 100 feet to the rocks below. And not just Thunder River, but the myriad waterfalls that hide in every side canyon along an extraordinary stretch of the Colorado River.

I want to see the waterfalls and to experience the soothing strength or sheer power within their mystical presence.

But first Alvin Derouen and I must heft our packs for the 12-mile hike down to our first camp on this nine-day stay in the waterfall district of the Grand Canyon.

The sun is our ally in the chilly air at 6,400 feet elevation on the edge of the North Rim's Kaibab Plateau. We head out of a deeply wooded draw at Indian Hollow down the steep 2-mile descent of Thunder River Trail to the Esplanade, a terrace of vast, naked sandstone. Along the way we find pictographs in blood-red hematite hiding in the shadows of an overhang. Promontories sport gigantic sandstone mushrooms and stunted trees.

Alvin didn't discover backpacking until after he was 50. He slept in a tent for the first time just three years ago. Since then, he has logged more than 200 miles in the Grand Canyon. Now he takes over the lead and picks up the pace, pushing hard to cover the 5 miles to the junction with the Bill Hall Trail, plus another 3 miles to the southern edge of the Esplanade, before the growing heat can overwhelm us.

Surprise Valley waits 2,000 feet below us, concealing Thunder River and the 6-mile stretch of river some 50 miles downstream from Phantom Ranch that is infused with spring-fed waterfalls in almost every side canyon between Stone Creek and Deer Creek.

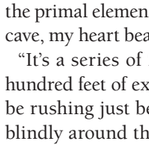
The temperature rises, stealing our strength, sweat stinging our eyes while the trail switchbacks through broken cliffs of Redwall limestone. As the thermometer climbs higher than 100 degrees and our sweat dries, we stagger off the trail to rest in the shade of a stranded boulder—the remnant of a geological cataclysm.

Miles to the west and eons in the past, molten lava once plugged the Colorado River, creating a lake that saturated the bedrock Bright Angel shale. Eventually, cliffs 2,000 feet tall started to move on the slippery base and a mile-long section of the Canyon wall ripped loose.

Reluctantly, we start back onto the trail before our muscles stiffen. We head down across Surprise Valley, my feet burning inside my boots. Scrawny blackbrush, small and shriveled cacti and an eerie stillness surround us.

Suddenly, the nozzle on my hydration system draws tight. I am out of water.

Tormented by the sun, we crest one final ridge and then, thankfully,



HEAR ME ROAR

Erupting from its spring-fed source in Thunder Cave (below right), Thunder River Falls (far left) spills into the remote canyon wilderness with a pounding fury.

■ To order a print of this photograph, see page 1.

hear the sound of distant water. Descending a steep path, we finally behold Thunder River Falls pouring from a huge bone-dry cliff. Whitewater splashes onto multiple ledges, hesitates, then cascades in rivulets and ribbons into more celebrations of freedom.

Overheated, we urgently guzzle the stream water, until finally revitalized, we stair-step 1,200 feet down to our campsite beside the half-mile-long Thunder River. Every turn reveals a new waterfall.

At the bottom, just below the confluence of Thunder River and Tapeats Creek, we drop our packs. Oddly enough, the "creek" accepts the "river" as tributary—its 50 million gallons a day is nearly double the flow of Thunder River.

We camp near a frothing cascade. After dinner, I lay down my ground cloth under an emerging gallery of stars and settle in for the night as a nearly full moon peers over the eastern cliffs and illuminates the Canyon walls.

A deep resonance surrounds our little camp, and within this ancient space, I feel my soul expand as I drift off to sleep.

The next day, scarlet monkeyflowers dance beside the rushing water under cottonwood, box elder and willow trees that canopy the riparian understory. The moist air carries the scent of sun-warmed leaves.

We hike back up to the top of Thunder River as I gather my nerve to confront the cave. I have learned one sure thing: Neither money nor prestige can offer what time with the primal elements can give. I look up at the cave, my heart beating hard in my chest.

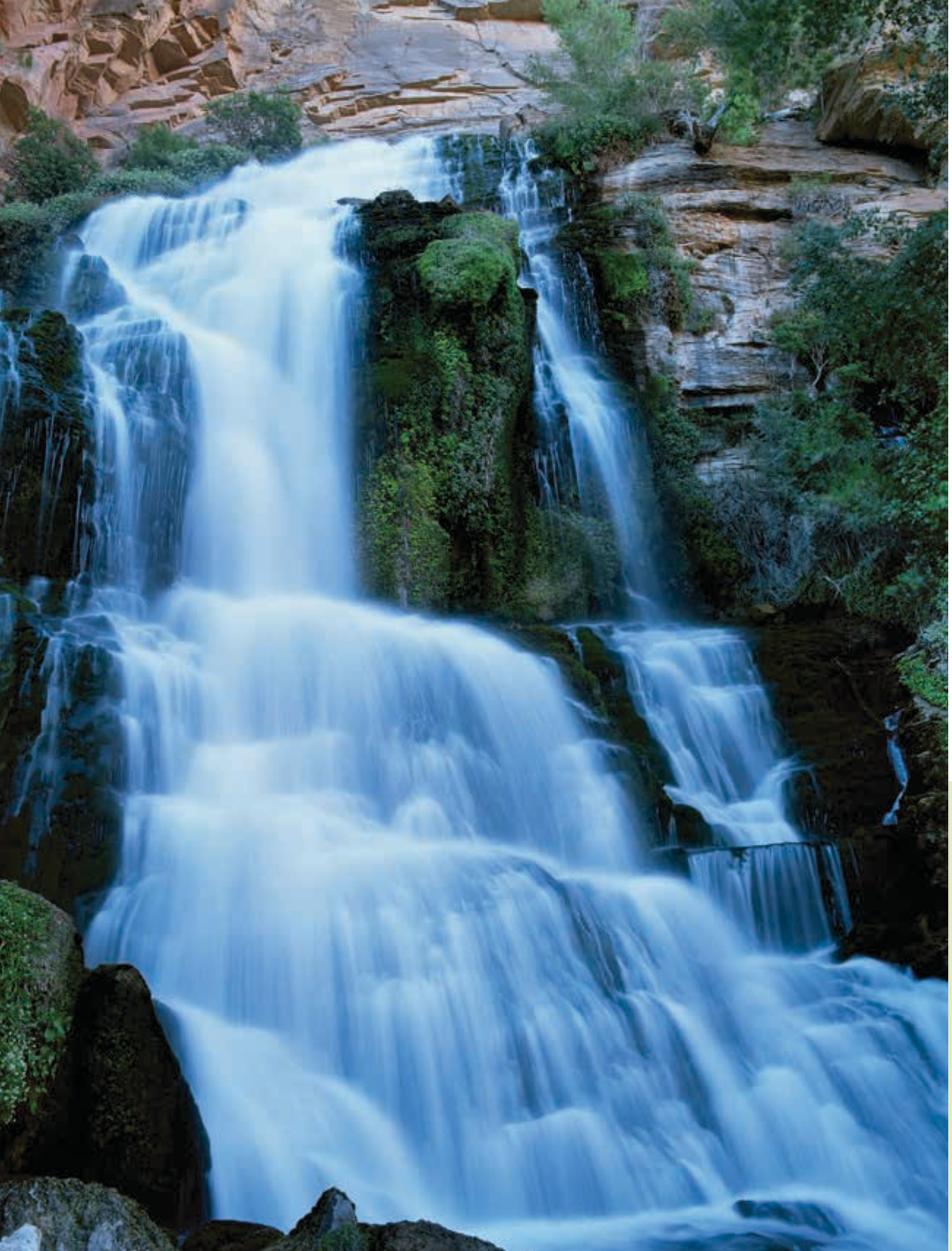
"It's a series of 5.3 pitches, with about a hundred feet of exposure, and the water will be rushing just below your feet as you step blindly around the corner and find the one hand-hold that will get you into the cave," my friend, river guide Wayne Ball, had informed me about the climb across the cliff and into the 3,000-foot-deep Thunder Cave.

The roar of the falls engulfs me as I carefully climb the cliff and traverse to the cave. For months, I had visualized and practiced the crux move I was about to execute. The long preparation carries me through a momentary terror as I step around the gaping void from midday brightness into the black inner world of the cave. The deep dark and constant roar compress my reality into a tight, strange world.

My headlamp quickly flashes across shark fins of scoured Muav limestone where water sweeps around corners, then rushes from the dark as the beam gets lost in corridors that divide the underworld. Pitched forward just above racing water, I spider deeper inside. The aggressive roar fills the dark space. I duck into a tunnel snaking farther in the darkness, feeling excited, yet alone and vulnerable.

After a while, I reluctantly decide I've gone far enough. But deep in that cave, I begin to understand the hidden story of the waterfall—and its hold on me. I want to experience all of the other falls, too.

Three days later, we shuffle awake before sunrise, camped now



THE THUNDER ROLLS

Thunder River (far left) is the shortest and possibly the steepest river in the world. Its effusive visual elegance drops 1,200 feet in approximately one-half mile to its confluence with Tapeats Creek.

To order a print of this photograph, see page 1.

alongside the Colorado River. We head up the eastern cliff above the mouth of Tapeats Creek and follow bighorn sheep trails high above the river to Stone Creek. We find a waterfall as a spiny lizard scurries past. I splash salty perspiration from my skin. A bull snake traverses the travertine-encrusted alcove. With seemingly mysterious underground origins, snakes often appear in the ancient stories about springs.

Climbing beside the waterfall, we reach a terrace where new territory opens up and golden columbines bloom in the shadows and a redbud sapling promises purple flowers. Two miles in, the canyon narrows to its end in a curve of falling whitewater. Maidenhair ferns shiver, while the grotto sings its song.

The following morning we set out along the river for Deer Creek, following hikers' cairns until the unyielding Zoroaster granite and Vishnu schist force us up and out of the river corridor. The river that averages 300 feet in width, here squeezes into a 76-foot-wide gap between walls more than a billion years old. In this sacred place, the deep, deep water never utters a sound.

As the heat and distance wear on us, we seek scraps of shade on the sharp stones. We struggle across a saddle, pass ancient Indian ruins, and finally enter the lush canyon of Deer Creek, where we set up camp under some cottonwood trees.

A mile-long path leads to the river, where Deer Creek Falls plunges a hundred feet from the end of a slot canyon, creating a wind that blasts spray sideways inside a protected cove at river level. All the river-runners stop here. I join the adventurous ones and back into the deafening roar, gasping for air under the pelting of the water.

On the hike back to camp, I see ancient handprints in white pigment on a wall high above the slot canyon, perhaps marking this as a place sacred to people whose gardens and dreams were nurtured by Deer Creek.

In a cliff nook, sandstone slabs form a seeming burial cist. Far below, the creek runs across a smooth canyon patio before cascading into the slot canyon. On the cliff above the cist, I find more white handprints. I hover my hand over one without touching the mark, and centuries of time dissolve. To this day, Southern Paiutes revere this slot canyon as their sacred entrance to heaven on the long journey after death.

The sinuous slot canyon contains an intimate world animated by clear running water. Before the day is over, I scamper into the chamber and walk down the carved hallway of stone. Around each curving bend, I am met by an elegance of reflected light and surrounded by an echoing symphony of liquid sounds.

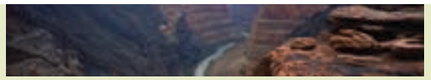
ON THE LAST DAY, I CAREFULLY REPACK MY GEAR, THEN STROLL 2 miles up to the waterfall at Dutton Spring, the source of Deer Creek. I nap listening to its carefree splashing until late afternoon, then walk back to the patio above Deer Creek Falls. The river-runners have gone, and I cherish my solitude in the warm evening air.

With no one near, I walk into a little 8-foot waterfall. Warm water pours gently over my neck and shoulders as I linger in the enchanted side canyon one last time. Twilight drapes the landscape as I dress and walk slowly back to camp, ready for the hike ahead.

Under a sea of moonlight, my memory begins singing as we make the long climb to the North Rim. And with every step, I bring home the magic of Grand Canyon's waterfalls. AH

Larry Lindahl says he finds a special feeling in places where water and stone meet in the desert. He's not sure if it's the positive ions in the air or the continuous movement, but streams and waterfalls capture his imagination for hours. He lives in Sedona.

online **Cruise the Canyon with our Roaming Rim-to-Rim Guide on arizonahighways.com (click on the June "Trip Planner").**



GRAND CANYON GUIDE

NORTH RIM

By Michael Famiglietti

The Grand Canyon's North Rim has the less-traveled roads that more adventurous hikers enjoy. Open six months a year, mid-May through mid-October, weather permitting, the Rim hosts a slew of strenuous paths. Visitors can expect some of nature's biggest challenges on the Thunder River Trail and Bridle Trail. Mischievous Kaibab squirrels and summer thunderstorms also keep the North Rim interesting. But its seclusion and beauty compel visitors to appreciate its charm.

POINT IMPERIAL

By ascending this highest viewpoint in the Grand Canyon, visitors may fully experience the North Rim. The 8,800-foot point affords a sprawling view of the Painted Desert. Optimistic eyes can see violets, reds and blues stretch out from the Canyon to the Petrified Forest National Park. The point's height also provides a widescreen view of the sunrise, a rare sight at the North Rim. Located about 3 miles from Cape Royal Road, in the northeastern part of the Rim.
Information: North Rim Visitors Center, (520) 638-7864; www.nps.gov/grca.

GRAND CANYON LODGE

After the original lodge burned down, architect Gilbert Stanley Underwood designed and built the current lodge in 1937. Stone walls and wood beams work together to make this tourism hub a classic fixture. The North Rim "It" spot caters to all Canyon needs, including hikes, tours and gifts. For diners who like to live on the edge, the lodge's capacious dining room has the perfect view. To secure one of the private cabins or lodge rooms during the lodge's mid-May through mid-October season, make a reservation far in advance. Prices range from $96 to $128 per room, and $9 for each additional person.
Information: (928) 638-2611 or toll-free (888) 287-2757; www.grandcanyonnorthrim.com.

GRAND CANYON TRAIL RIDES

Riding along on the back of a mule casts a different focus for visitors to the North Rim. For 23 years, this mule-riding tour company has guided brave riders along the trails. It offers full-day ($125) and half-day ($65) trips to please the eye and feed the brain. Experienced guides lead the treks, dishing out important historical and geological facts. Riders must meet age requirements to ride, 10 for half-day trips and 12 for all day. Trips start at the Grand Canyon Lodge and descend the North Kaibab Trail.
Information: (435) 679-8665; www.olwm.com/canyonrides.

NORTH RIM VISITORS CENTER

The essential stop for all who make it to the North Rim, the center has everything to keep your visit on track. Guests can pick up maps before heading out or wait for a ranger to take them out on an interpretative trip. The Nature Walk explains the natural processes of the forests, and the Discovery Park Junior Ranger program teaches kids about the Canyon. The center's bookstore, operated by the Grand Canyon Association, uses proceeds to benefit research in the park. The center stands at the south end of the Bright Angel Area near Roaring Springs.
Information: (520) 638-7888; www.nps.gov/grca.

A VULTURE THREESOME AND AN UNCLE BIOLOGIST STAVE OFF EXTINCTION

Condor Love

By Frank Jennings
Photographs by
Chris Parish

Chris Parish danced high atop the Vermilion Cliffs, waving a red coat like a crazy man in a desperate effort to attract the attention of two birds with nearly 10-foot wingspans rising on a thermal a mile and a half down the ridge.

Nearby, gangling Junior peered at the demented biologist through the slats of the kennel in which he waited for his mummy and daddy, carefully placed next to the nest cave where he'd hatched—the bright hope for a flock of nearly extinct condors, thanks to the efforts of a team of bird biologists.

Suddenly, two condors peeled away from the distant gyre of the biggest birds on the planet—Ice Age survivors back from the brink. Eighteen days earlier, biologist Jim Wilmarth had captured Junior, fearful of possible lead poisoning from eating a deer carcass contaminated by a fragmented lead bullet. One bird surgery and a full recovery later, Parish hoped to return the gawky young bird to his parents in the flock of 53 condors now living north of the Grand Canyon. His great fear was that the parents would reject the prodigal chick.

His hopes soared when he spotted the number 114 on Harold's wing tag. It was Junior's doting father, 24 pounds of paternal instinct.

But wait. The female flying alongside Harold wasn't Gertrude (149), Junior's mother. It was Maude (126), the flirtation of Harold's wayward youth for whom he'd ditched Gertrude.

Maude landed beside the confused Junior, apparently ready to assume the duties of stepmother. But Harold chased her away, and then performed his tender fatherly duties—regurgitating a big crop full of mushy meat he'd gobbled from a calf carcass set out by Parish's team to supplement the condors' diets.

Despite the rebuff, Maude hung about making love-eyes at Harold, who soon let her get close to the chick.

A few hours later, Gertrude cruised past on a thermal. She looked down at her son, her wayward mate and the other woman. Then with a feathered shrug, she floated southward to the South Rim of the Grand Canyon, perhaps hoping some tasty tourist would fall off a cliff.

DOTING PARENT **Perched on a rock, a colorful male condor sits with his offspring, the first condor chick (far left) to hatch in the Grand Canyon since reintroduction efforts began. Soaring over the Grand Canyon in search of carrion, a mother of two (right) can fly up to 50 mph and travel more than 100 miles in a day.**

Parish just shook his head. Who can predict the heart of a condor?

The 11 field researchers and condor-minders working for the Peregrine Fund have logged thousands of hours of observation as part of a million-dollar-a-year reintroduction effort. Funded by a combination of federal and private money, the effort has maintained a captive-breeding program and established struggling populations of the giant vultures in Arizona, California and Baja California, Mexico. At last count, the number of condors in existence had risen from 22 to 242, including 145 in the captive-breeding program and 97 in the wild, with more than half of

them in Arizona. The Arizona population has successfully reared five chicks hatched in the wild, which made Junior something of a superstar in the condor world. The biologists figured Junior was suffering from lead fragments when they captured him, since hunters' bullets fragment into hundreds of pieces when they impact, which could cause lead poisoning in scavengers like condors—or perhaps even in people who eat the meat.

Near Lee's Ferry Lodge, which hosts the team, Parish X-rayed Junior at the lab the team built with the assistance of the Arizona Game and Fish Department Heritage Fund. He noted

Condors vanished from Arizona in 1927, and by 1983 only 22 remained alive in California.

a hazy mass in Junior's gut. That discovery prompted a quick trip to the Phoenix Zoo, where veterinarian Kathy Orr operated to remove a hairball lodged in place by two sticks Junior had swallowed.

Such repeated saves have underscored the difficulty of returning condors to the territory, where 10,000 years ago they patrolled for Ice Age carcasses of mammoths, mastodons and giant ground sloths. The gigantic vultures cover 150 miles per day on average, mate for life, live for up to 70 years, but produce only one chick every two years. Condors vanished from Arizona in 1927, and by 1983 only 22 remained alive in California. Already beset by habitat loss, the condors were shoved toward extinction by lead poisoning, power line collisions and eggshell thinning caused by the presence of the pesticide DDT in the food chain. Biologists rounded up the survivors, established a captive-breeding program and started releasing condors into the wild in 1992.

Fortunately, biologists tricked the captive vultures into essentially tripling their reproductive rate by removing eggs and using adoptive parents to rear the extra chicks. However, actually returning the curious, social, intelligent birds to the wild proved much more difficult.

The first flock released in California behaved like a youth gang, hanging out at a golf course, haunting the barbecue pits and even attacking cars in the parking lot. "It was like *Lord of the Flies*," observed one biologist. Worse yet, 20 percent of the released birds died in their first year from encounters with power poles and human beings. The inventive biologists countered with fake power lines, electric shocks and hazing techniques to train the birds to avoid potential hazards.

In Arizona, the first release was in 1996. The biggest setback came when 12 condors died of lead poisoning. Three others have been shot, one by a medical student with an illegal firearm in Grand Canyon National Park who said he thought he was shooting at ravens, which is also illegal. A golden eagle killed three condors that strayed into its turf, and coyotes nabbed five others.

Even so, the condors have adapted. Some have wandered 200 miles north along the shores of Lake Powell and many hang out over the Grand Canyon, to the delight of river runners, tourists at the Navajo Bridge overlook and South Rim visitors. The widest-ranging condor reached Flaming Gorge in Wyoming.

The appearance of condors drawn by all the activity at the South Rim inevitably attracts neck-craning exclamations from humans. But Parish's team tracks the radio signal and rushes over to scare off the condors, knowing that losing a fear of humans could doom the flock. And biologists urge camera-clicking, condor-coddling tourists to stay well away from the birds—or to deliberately scare them off to reinforce the conditioning.

If a condor proves too fearless for its own good, biologists will sneak up, grab it by the legs and take it back to the captive-rearing pens for a good talking to concerning the inherent untrustworthiness of human beings. One condor developed the disconcerting habit of visiting the camps of river-rafters and going through their things. Another condor enjoyed strolling along the trails of the South Rim until biologists grabbed him and shipped him off for reconditioning.

These patient and persistent efforts to safeguard the condors have paid off, especially for Junior.

Harold and Maude cared for the youngster for several months after his return, but then the breeding season rolled around. Normally, condors mate every two years and continue to feed the chick for 18 months. But as soon as Harold and Maude mated, they both stopped feeding the hapless Junior.

Fortunately, Junior had the good sense to hang out at the enclosure the biologists kept stocked with calf carcasses.

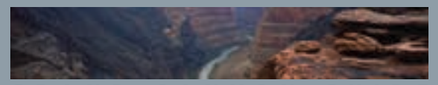
Now, Harold and Maude have another baby. Gertrude has a sweetheart of her own. And Junior's doing just fine—thanks to Uncle Parish and the crew. AH

Like Junior, Frank Jennings likes hanging out with biologists at the Grand Canyon.

Chris Parish of Mormon Lake has worked as a biologist for Arizona Game and Fish Department and for the past six years with the Peregrine Fund.

WARMING RUFFLED FEATHERS **A condor that has produced young since her release into the wild warms herself after a cold Canyon night by spreading her wings across a sun-drenched rock.**

CRUISING CONDOR **With her wings fully fanned, this condor (right) cranes her neck to spot and swoop down on prey below. Condors also use other scavengers, like ravens, for clues to finding food.**



GRAND CANYON GUIDE

Condor-watching

Visitors often see condors at the South Rim of the Grand Canyon and around Navajo Bridge near Lee's Ferry. The reintroduction crew lives on land provided by the Lee's Ferry Lodge at Vermilion Cliffs, also a great base for viewing condors.
Information: toll-free, (800) 451-2231 or (928) 355-2231; www.leesferrylodge.com.

Detours of Arizona now offers three- and four-day condor-watching tours guided by Peregrine Fund biologists, which include raft trips below Glen Canyon Dam and visits to the condor-release site.
Information: toll-free (866) 438-6877; www.detoursaz.com.

To donate to the condor-reintroduction effort, contact The Peregrine Fund, (208) 362-3716 or www.peregrinefund.org.

EDITOR'S NOTE: *Recently published by the Grand Canyon Association,* Condors in Canyon Country *by Sophie A.H. Osborn chronicles the triumphant return of condors to the Grand Canyon region. For information, visit the GCA Web site www.grandcanyon.org.*

A Geologist's Paradise

Stately formations of the Grand Canyon preserve the tale of the Earth

By Ivo Lucchitta

Photographs by Gary Ladd

The Old Master—Grand Canyon
Spectators take in the view from a promontory as sunset bathes the Canyon in warm August light near the South Rim's Desert View. Far more than just scenery, the Grand Canyon can teach us much about Earth's history and geologic processes.

■ To order a print of this photograph, see information on page 1.

The Old Master

The Grand Canyon is one of the world's outstanding scenic features, and also a world-class geological classroom that reveals in splendid layers the construction of the Earth.

Maj. John Wesley Powell understood this perfectly some 135 years ago when he first braved the rapids of the Colorado River, making geological notes all the while. Since then, a succession of great geologists has grappled with conceptual problems brought into vivid relief by the great Canyon, struggling to read the stony pages of a book billions of years in the making.

The story told by the rocks in the Canyon walls starts when the only living organisms were bacteria and algae, and the atmosphere contained just a trace of oxygen. It captures the explosion of life in the warm Paleozoic seas, documents the spread of life to the land, the staggering blows of devastating extraterrestrial catastrophes and the rise of the dinosaurs.

However, the Grand Canyon, that Old Master, has even more to teach. For example: How do rivers, perhaps the most "alive" of all inanimate objects, work? How do rapids form? What happens when tributary streams flood? Did natural forces ever dam the Colorado? Has the river corridor itself changed?

The Old Master offers more immediate lessons as well, which bear directly on human impact on the environment. Ancient farmers lived deep in the Canyon, making a living from river terraces now gone. When did the farming start? Why did it end? Do those answers harbor a warning about the effects of the modern Glen Canyon Dam?

Of course, the answers to such questions can absorb not only scientists, but inquirers who can keep their eyes, ears, brains and hearts open. One such keen observer is photographer Gary Ladd. In these pages, his photographs reveal the geological puzzles intertwined amid the scenery.

< A River of Water Meets Rivers of Fire

Starting a few million years ago, the Earth's crust pulled apart along the Toroweap and Hurricane faults in present-day northwest Arizona, and great blocks of land to the west of each fault dropped down. Later, just a few hundred thousand years ago, molten rock began to rise to the surface near the faults, creating many lava-spewing volcanoes.

The angry-red lava flowed into the Grand Canyon in fiery cascades. On the Canyon's floor, the hissing rivers of lava met the Colorado River, provoking an awesome spectacle of boiling water, huge plumes of steam and exploding red-hot lava.

The lava flows dammed the river repeatedly. One lava dam probably stood more than 2,000 feet high — three times the height of manmade Glen Canyon Dam. The natural dams created lakes behind them that rose until the lava gave way, causing massive floods.

Rivers of Water and Fire **Mounds of lava spilled into the Canyon near Toroweap Overlook (visible on the distant left rim) a few hundred thousand years ago. Some spills blocked the flow of the Colorado River with lava dams. Today, Lava Falls Rapids rumbles at the base of the lava cascade.**

To order a print of this photograph, see information on page 1.

Ancient Farmers **Ancestral Puebloan Indian granaries haunt the Canyon above the Colorado River at the mouth of Nankoweap Canyon.**

^ Ancient Farmers

The many archaeological sites and artifacts in the Grand Canyon bear mute witness to a large, vanished population of ancient Puebloan farmers. However, today's rocky, soil-poor banks of the river provide little opportunity for farming. What happened? In those days, the river built up its bed, creating a wide floodplain made even more suitable for farming by frequent floods that deposited fertile sand and silt while removing salts, as does today's Nile River in East Africa. But sometime in the last 700 years, the river cut down 30 feet, carrying away all but remnants of the ancient farm ground. Today, dark bands in the soil — colored by charcoal left behind when farmers burned off the stubble of their crops — provide samples that geologists can date using the radiocarbon technique. The charcoal layers also contain grains of pollen from ancient maize plants, indicating that maize farming started here even before 1400 B.C., the time of Egypt's pharaohs, Ramses II and Tutankhamen.

Grand Canyon Supergroup **The Canyon's interior sometimes reveals the Grand Canyon Supergroup, a classification of rocks that fills some of the geologic record gap known as the Great Unconformity. The tilted Galeros Formation (above) makes up a part of the Supergroup.**

^ Missing Time

The rock layers in the Grand Canyon's walls are one of the best records of Earth's history, dating back some 1.8 billion years. However, even here many pages of the book have disappeared into the silence of time. The largest gap is the Great Unconformity, an 850 million-year-old span of missing rocks in the Inner Gorge. This gap represents all the rocks formed after 1.4 billion-year-old granites and before deposition of the 550 million-year-old Tapeats sandstone. However, geologists have filled some of the missing gap with the Grand Canyon Supergroup, deposited between approximately 1,200 and 750 million years ago. Now, only 400 million years are still unaccounted for. What happened? The missing rocks were eroded away by the sea pounding away against the edge of the ancient continent each time the sea advanced, just as we see at the margin of today's continents.

Deer Creek: a Stream Remade >

Near River Mile 136, the bluffs flanking the river are made of rubble, as if entire mountains had shattered and crumbled. This is the narrowest and deepest part of the river's channel. But just around a corner, Deer Creek shoots out of a narrow cleft to plunge some 100 feet to the Colorado River, the only major stream in the Canyon to do so—all the others meet the Colorado at river level. Upstream from the waterfall, Deer Creek flows in a narrow cleft carved in the Tapeats sandstone; farther up, it flows peacefully in a wide valley cut into the rubble. What has happened there? During a wet period thousands of years ago, saturated shale simply gave way, creating a mile-wide landslide that filled the canyons of the Colorado River and Deer Creek. A lake was formed behind the landslide, which it eventually overtopped in its lowest point, creating a new channel for the Colorado River. However, the smaller Deer Creek could not cut down as fast as the main river, so today it joins the Colorado in a dramatic waterfall.

Deer Creek **Through ancient sandstone, Deer Creek cascades to the Colorado River in a powerful waterfall. Landslide rubble that displaced the stream's original course can be seen in the sunlit portion of the corridor.**

To order a print of this photograph, see information on page 1.

Vishnu Group **Vishnu formations near Mile 83 (above) were forged billions of years ago. Sculpted by debris-laden water, the rock displays stunning patterns etched into the dark stone.**

^ Portal to the Underworld

The somber rocks of the Inner Gorge—masses of black and pink rock with no bedding, laced with contorted folds and veins—are the oldest in the Grand Canyon. So how were these rocks made? Some 1.8 billion years ago the expanding North American continent reached the area of the future Grand Canyon. The expansion occurred where a dense and thin oceanic plate slid under the continent, forming island arcs like modern-day Japan. But then the drifting continent encountered a thick and less-dense plate that could not slide under it. The colliding edges crumpled and rose, like the modern-day Himalayas. The pressure squeezed the heated rocks into vertical accordionlike folds and melted minerals in the rocks to create veins. The oldest of these mineral veins were fractured by the unrelenting pressure. Later, still-molten minerals seeped inside, creating veins that cut through the older, folded layers. These complex events created the beautiful patterns in the Canyon's most ancient formations.

online **Find our expanded Grand Canyon Adventure Guide at arizonahighways.com (click on the June "Trip Planner").**

Riffles and Pools >

Many of the spectacular drops in the world-famous rapids of the Grand Canyon are separated by miles of quiet water, the classic riffle-and-pool situation. Why? The rapids all occur at the mouths of tributary canyons. The streams that cut those side canyons periodically flood, dumping a mass of mud, sand and boulders into the Colorado. The floods rushing out of the side canyons spread out when they hit the main river and so drop their load of debris. This creates a rough dam, which backs up the river water upstream. Periodically, floods on the Colorado rearrange these debris dams. The process happens because floods increase the power of a river by roughly a factor of eight when the water velocity is doubled. Today, Glen Canyon Dam prevents big boulder-moving floods, which makes the rapids bigger and more numerous with time. AH

Grand Canyon expert geologist Ivo Lucchitta has studied in places ranging from Alaska to Arizona, but the ever-present drumbeat has been his love for and fascination with the Canyon. He lives in Flagstaff.

Gary Ladd deliberately searches for images with strong geologic themes, especially if he's working in Grand Canyon National Park, Glen Canyon National Recreation Area and Vermilion Cliffs National Park. He lives in Page, adjacent to those parks.

Hard Facts: Four Canyon Science Tours

By Michael Famiglietti

When it comes to science, some people like getting their hands dirty. Studying the Grand Canyon's 1.8 billion-year-old rocks or its ancient inhabitants doesn't have the same punch unless you're up close. These tours delve into some of the Canyon's mysteries, including the Great Unconformity, an estimated 850 million-year gap in geologic time. Guides take curious travelers to ancient sites, where they can poke around in the past, study fossils and run their hands along Earth's timeline.

NATIONAL PARK SERVICE RANGER PROGRAMS

The park service provides a number of free science classes to whet visitors' intellectual appetites. Typically hosted by lodges and visitors centers, the classes run 30 minutes to one hour. At the South Rim, "Introduction to Grand Canyon Geology" and "Geology Walk: Read the Rocks" detail the formation of the Canyon in a classroom and on a short walk. On the North Rim, "What's Rockin'?—Grand Canyon Geology" teaches rock names and how to identify them. (928) 638-7888; www.nps.gov/grca.

CANYON DAVE'S NATURE AND GEOLOGY TOURS

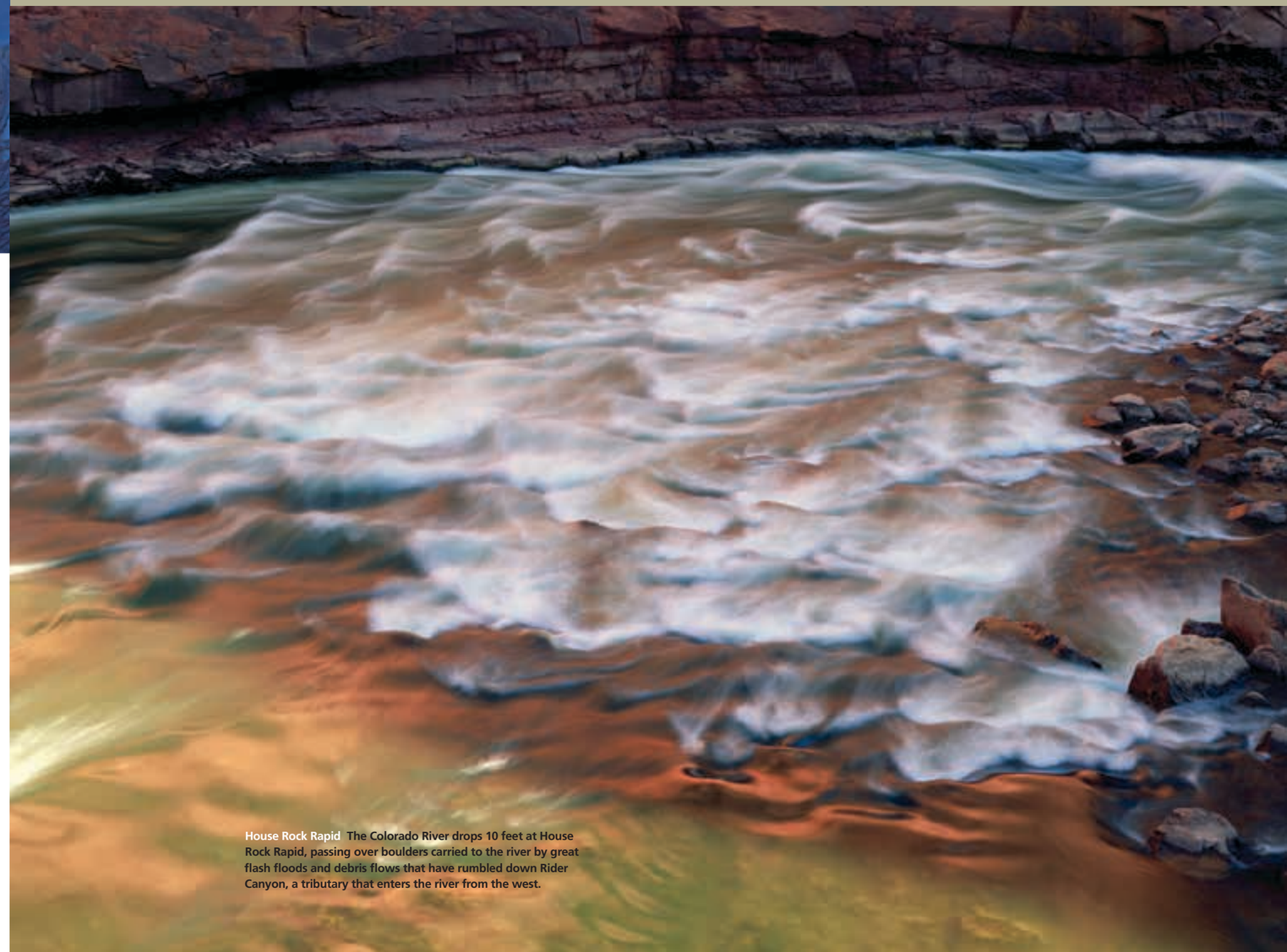
Offering two distinct tours, this private company employs university-trained guides who teach hikers about plants, animals, Puebloan Indian culture and rock formations. Tours welcome all ages and skill levels. In the summer, look for a kids-oriented program. Tours range from $129 (for a full day) per adult to $49 for a 4-hour kids' tour. (877) 845-3283; www.canyondave.com.

REDSTONE TOURS

While catching glimpses of the San Francisco Volcanic Field and the Painted Desert on this tour, visitors explore an archaeological site. Guides trace an ancient people's mysterious disappearance by treating guests to a historical walk through the Grand Canyon. Other great views include the Little Colorado River Gorge and Cameron Trading Post on the Navajo Indian Reservation. South and East rim spots are highlighted on other tours. Prices range from $99 to $129 for adults and $85 to $116 for children, ages 3 to 16. (928) 203-0396 or (866) 473-3786; www.redstonetours.com.

GRAND CANYON FIELD INSTITUTE'S NORTH RIM EXPLORATION

A program of the nonprofit Grand Canyon Association, this hike treks along the demanding North Kaibab Trail. In the area's forests and deserts, backpackers examine fossils and rock art, looking for history. This three-day excursion also details Canyon animals and ecology. Hikers must be at least 10 years old. Costs are $170 for Grand Canyon Association members and $195 for nonmembers. (928) 638-2485 or toll-free, (866) 471-4435; www.grandcanyon.org/fieldinstitute.



House Rock Rapid **The Colorado River drops 10 feet at House Rock Rapid, passing over boulders carried to the river by great flash floods and debris flows that have rumbled down Rider Canyon, a tributary that enters the river from the west.**

Point of View

Standing at the edge of the best Grand Canyon overlooks always delivers a mind-wrenching surprise

By Charles Bowden
Photographs by Jack Dykinga

Grand Points
Sunrise peeks over the Grand Canyon as the Colorado River meanders below the stratified rock layers of Grandview Point. Only 300 feet wide, the river seems dwarfed by the enormous gorge that averages 10 miles in width. Last light lingers on the Canyon at Yaki Point (above, right) on the South Rim.

■ To order a print of this photograph, see page 1.

Piñon pine and juniper stand black in the gray light as the first feeble licks of dawn seep into the eastern sky. The road is more rock than anything else, the air clear and silent. Yesterday, at the south entrance to Grand Canyon National Park, the line of cars reached back more than 2 miles. I'm 20 miles west of there and alone except for the three cow elk that stand by the road, and one spike bull that seems like a giant statue as I grind past. The ravens now slowly emerge from the darkness and fill the beginning of the day with their croaks.

South Bass Point suddenly snaps into view. That is the enduring quirk of the Canyon, the thing that has stunned people for centuries—you never see it coming. There is rock, old grayed limbs and trunks of fallen juniper and pine, a maze of forest, blue sky, and suddenly the world ends and there is this huge hole in the heart of the planet. Every approach to the Canyon means rolling through tablelands, flat ground with scrub or trees, nothing that would suggest the chasm waiting nearby.

At South Bass, the stone remnants of an old cabin stare one in the face. The trailhead down to the river slips off the Rim. William Wallace Bass came here in 1884 to cure an illness. He stayed, had a family, raised kids, carved a trail to the river, put in a cableway across the Colorado, carved a trail on the north side up to that Rim, had mines, even got a strata in the Canyon named after him and was part of the beginning of the tourist industry in this area. Now his home ground is silence, and for me, a trigger to memory as I stare down at the Inner Gorge where the Colorado River churns at Bass Rapids.

Once, I clambered off the North Rim and went down to Bass Rapids, the ground below the Rim spread as an emerald-green smear of life. Now I stand on the South Rim and look into my past and the past of everything else that has ever lived. It's all in the strata, there right in front of me, hundreds of millions of years of life and finally, that dark rock called pre-Cambrian, stone that hails from the beginning of planet time itself and is almost 2 billion years old. Color codes time itself—cream, grayish white, yellow, white, rust red, red, tan, purple, a procession of tints and pigments—a clock made like a rainbow.

As a species, we tend to walk to the edge of the Grand Canyon, look, and then not know what to do. The names of formations roll off the lips in close-order drill—Kaibab, Toroweap, Coconino, Hermit, Supai, Redwall, Muav, Bright Angel, Tapeats—on and on as the mind spins ever deeper into time. And then a jay clatters in the nearby piñon and the mind returns to the immediate moment as the eye floats over the Canyon. Numbers hardly help at those places we call vistas because the numbers are too big. The mind must try to encompass a gouge in the earth 277 miles long, up to 18 miles wide, on average a mile deep. There's one number I keep repeating like a prayer and yet can never comprehend: All the rivers in the world total 300 cubic miles of water but in the Grand Canyon one river has moved 800 cubic miles of material in creating this big hole.

What we see at these viewpoints lining the Grand Canyon depends on what we bring to the Rim. And we see more if we go to those obscure places, the ones with primitive roads and no facilities, because then we face this warp and woof of time alone and in silence with only the bubbling of love and memory to keep us company. The camera stays in the case, there is no guardrail, or signs. Nothing protects us from ourselves or this wound in the earth that harbors the bones of all our ancestors, plant and animal, and their ways and dreams. Time stops, literally. The sun seems to move across the sky but this is little noticed. Birds sweep through the trees, a blue mist hangs over the Canyon, and the slot of the Inner Gorge winds its way far below. At some points the actual

Lavender and Lace
At South Bass Point, a tiny agave (opposite page) adds contrast to the lacy texture of orange lichen covering trailside rocks. Water fills a natural rock pool at the Saddle Mountain overlook as dawn colors the Canyon in muted shades of lavender.

To order a print of this photograph, see page 1.

Time's Temple
Sun rays silhouette the outlines of Angel's Gate, Isis, Shiva and Zoraster temples and Wotans Throne from the overlook at Navajo Point. Classical mythology and Eastern religions provided inspiration for many of the Canyon's formation names. Near Saddle Mountain overlook, twisted aspens (above, right) rise from fertile soil that is also a habitat for flowering purple lupines and flame-colored Indian paintbrush blossoms on the Canyon's East Rim.

■ **To order a print of this photograph, see page 1.**

river can be seen, and without exception, I always think I can hear the water moving a mile below.

Sometimes I bring a book. At Bass Rapids I once knocked off a scientific study of passenger pigeons. At Lee's Ferry, the starting point of the Canyon where the Paria River ripples into the Colorado, I finished Carl Sandburg's massive study of Abraham Lincoln. But eventually, the book is set aside. That is the moment I crave, when time stops, when the world as I know it falls away and when I think but do not think, that state of mind I imagine Zen monks savor in those manicured rock gardens where they contemplate the depths of life. There is no machine noise, no car doors clunking shut, no engines turning over, no radio, no speech, save the song of birds. And the breeze boiling up out of the Canyon itself. At Toroweap, hours of bad road lead to groves of trees and then a 3,000-foot cliff where the earth seems cut as if by a knife.

I have a tiny camp stove for making coffee and I am always stunned by the roar it makes and blessed by the curtain of silence that rolls out the instant I turn it off. Each time I use it I am appalled, as if the mayhem of modern life had followed me as a stowaway disguised in this piddling stove. Maybe that's the reason I bring it—so that the roar of the burner will make the silence all that much more delicious when I turn it off.

Viewpoints are a curious product of the human mind. We insist there are promontories that enable us to see more. I doubt this very much. Every inch of the Rim brings to our eyes more than we will ever understand, and yet at the same instant, everything we see we understand at some deep level within ourselves and this understanding is beyond our ability with words. There is a part of me that thinks that no one should write a word about the Canyon, or take a photograph, or paint a picture. And I believe this—even though at this very instant I am violating this belief as I write—because the Canyon is like great music, within the reach of everyone and beyond the comprehension of anyone. We can feel it but we can never say it.

The road spins through scrub, then hits stands of big ponderosas, and finally slips into Prospect Canyon, a place named by two 19th-century men looking for the bonanza. I'm on the Hualapai Reservation, a long way west of South Bass Point. The dirt track goes on and on for more than 20 miles and I see no one. Five spike mule deer bound out of the way, groups of juvenile ravens explode before my eyes. A column of stone glows yellow by the road, the Canyon walls narrow and then widen. Mile after mile I follow a lane amid the trees, then the Canyon opens and sagebrush takes part of the landscape. I climb up onto a ridge to the left, the stone slab that leads to the promontory. Now the road is rock, and winds on the edge of a burned-over area, the blackened skeletons of trees standing like scarecrows across the landscape. Suddenly on the left, the world falls away. I park and walk over through the pines and stand on the Rim. The earth below feels remote and everything is buttes, plateaus and wind. I'm miles from Prospect Point but I linger. The stone is cool, to the west the air hangs blue, an enchanted mist hanging over the benches and spires of the Canyon.

I roll on and enter the forest clotting the promontory. I walk to the Rim, and below is Bass Rapids, a place I once sat for days and days. The trail on the North Rim leading down to the river is a jumble of boulders and then the chaos of a streambed. It was winter that time and ice formed on the water. The Canyon from Prospect Point becomes a well of memory for me. I stand in the sun and yet feel the fresh flakes of snow from that long-ago winter trek. At my feet are gnarled silver limbs of piñon. Some almost seem to twirl as if a giant hand warped them into sinuous curves.

I'm alone. But that is the point of seeking isolated places on the Rim of the Grand Canyon—to find that aloneness, and when *(Text continued on page 37)*

Soaring Spires
Piñon pine trees grow in the rock garden of the Canyon's sculpted spires seen from the North Rim's aptly named Crazy Jug Point in the Kaibab National Forest.

To order a print of this photograph, see page 1.

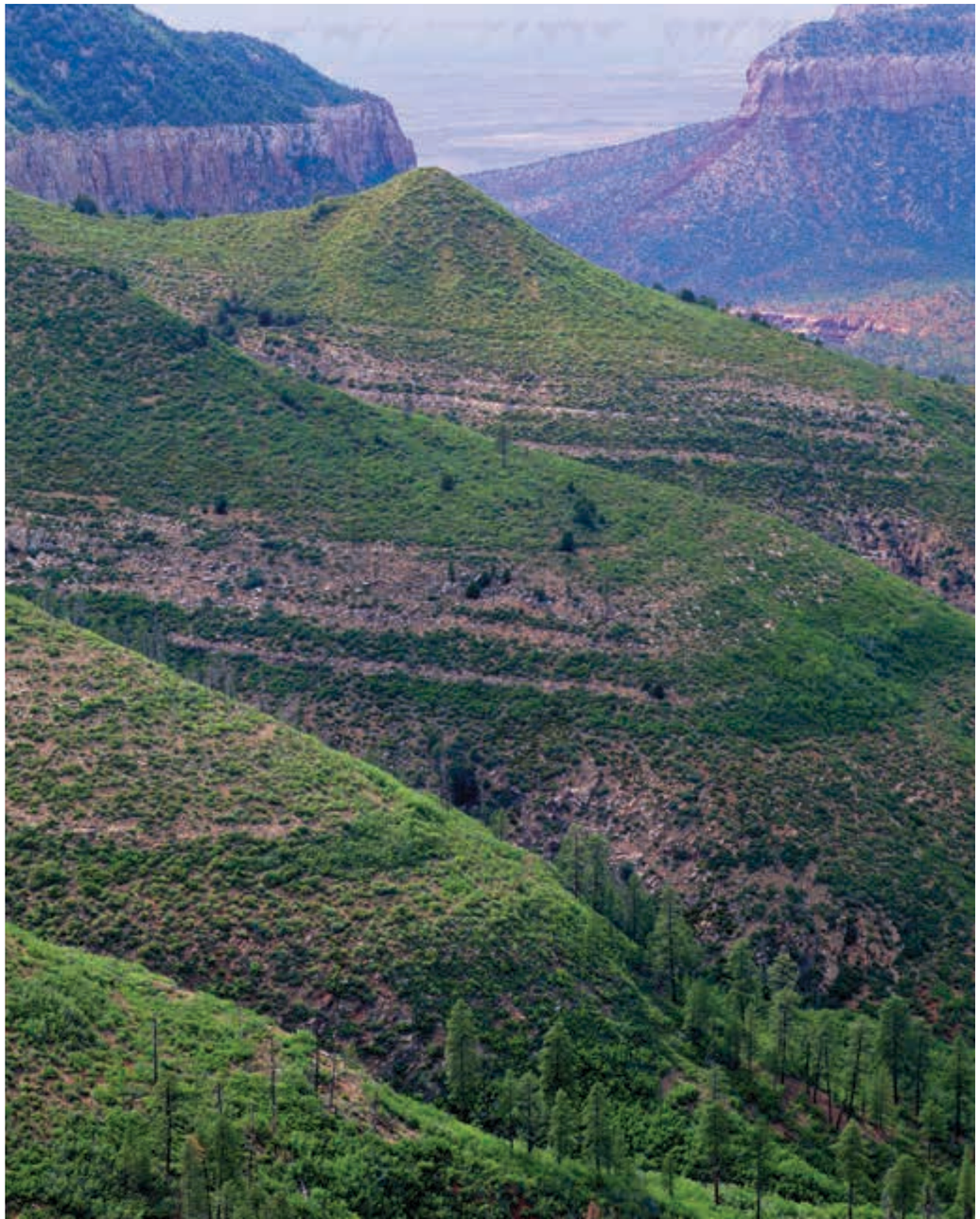
Emerald Slopes **Morning light casts shadows that crawl down the velvet green vegetation hugging the cliffs of Grand Canyon's Swamp Point.**
■ **To order a print of this photograph, see page 1.**

(Continued from page 33) you do, then you realize you are never alone because these ribbons of time, those captured in the strata and those embedded in your own life, these soft ribbons of life wrap around you and suddenly you have no schedule, you are not on the way to somewhere, you are where you began and where you end and where all the places in between are found. Sometimes they call the place South Bass, or Prospect Point, or North Bass, or Toroweap or a dozen other off-the-beaten-path fingers of stone reaching into the big chasm.

The view can be huge, like here. Or the view can be little, like at Lee's Ferry where you glance downstream and suddenly realize the Earth is opening itself up to human eyes for close to 300 miles.

But the view is always the same as you finally look into yourself and find you can live with what you see. AH

Green Thumbs **Near the North Rim, Steamboat Mountain (top, right) anchors the bright green hillsides of Powell Plateau in Grand Canyon National Park.**



Cloaked in Mist-ery

The Canyon's rugged beauty plays hide-and-seek as fog drifts over Cape Royal, veiling the North Rim's charms until the weather clears.

To order a print of this photograph, see page 1.

Variegated View

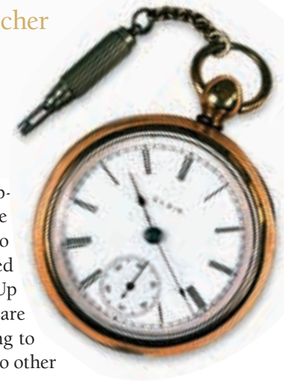
Sunset at Yaki Point highlights the strands of color in the rocky layers of the Canyon. The viewpoint takes in only a fragment of the Canyon's 1,904 square miles.

■ To order a print of this photograph, see page 1.

TRASH, Treasure & Tragedy

A museum stuffed with 800,000 cataloged items from ancient spear points to airliner debris captures the Canyon's nitty gritty secrets

By Adelheid Fischer



If you were to place a want ad for the job of overseeing the Grand Canyon research museum, the wording might go something like this: "Ideal candidate would be as detail-oriented as a librarian, possess a computerlike memory and bubble with the enthusiasm of an 'Antiques Roadshow' television host. Must have more than a glancing interest in archaeology, plants, rocks, critters, Western Americana and American Indian history. A passion for all manner of cultural kitsch a plus. Required: a willingness to defend the objects in your care against rodents, sunlight, dermestid beetles, mold and oily human fingers."

For 17 years now, the Grand Canyon National Park Museum Collection (GCNPMC) has had its made-to-order custodian—Colleen Hyde. She presides over a soup-to-nuts, trash-to-treasures collection that's housed in a government-issue building on Albright Road on the Canyon's South Rim. Within the nondescript exterior are whole drawers, shelves and cabinets bursting with Grand Canyon-related objects. You want to see a landscape tour de force by the renowned American painter Thomas Moran? No problem. Hyde will pluck it out of a collection that tops some 800,000 cataloged and numbered items. Writing an article on the history of Grand Canyon souvenirs? The collection's got postcards to back-scratchers. Are you a doctoral student starting a thesis on the flora of the world's biggest ditch? Well, you'll have 10,000 herbarium samples to pore over. Are you a relative of one of the 128 passengers killed in the tragic TWA-United airliner collision over the Canyon in 1956? The archive has exhaustive documentation of the crash. The coverage even includes a wing flap from one of the planes, courtesy of a hiker with itchy fingers who "attempted to liberate it from the park," Hyde observes. Another 30,000 to 40,000 objects are accessioned but have yet to be cataloged. Up to an additional 80,000 items are packed away in boxes waiting to be unearthed by Hyde and two other staff members.

"There are days I think I've seen every piece that's back in storage and that there's nothing new," Hyde says. "Then I open up a cabinet and see an interesting letter or a new fossil and my jaw drops. Where did that come from? It's always exciting."

And every week brings more unexpected nuggets. People cleaning out the family attic uncover scrapbooks compiled by Great-aunt Jane chronicling her grand tour of the American West in the 1920s. While moving his office, a park employee came across a series of antique buttons in his desk that were clipped from a National Park Service uniform in the 1930s. In 2005, the fragment of a Clovis point some 12,000 to 14,000 years old was added to the collection after an amateur flintnapper (stone tool maker) spotted it while enjoying the view from the South Rim. His find proved that humans occupied the Canyon 2,000 years earlier than previously thought. And then there's the occasional looted pot or filched rock that arrives anonymously in the mail from guilt-ridden thieves. "Sometimes you just open up the mail and it's Christmas in July," Hyde exclaims.

Although each item is carefully evaluated, "Very seldom do we turn anything down," Hyde observes.

Clockwise from top left: Canyon explorer Harvey Butchart's backpack, ascenders, canteen and hiking boots, 1980s; Maj. John Wesley Powell's pocket watch, 1869-1871; carte-de-visite "girlie cards," late 1800s; Flagstaff black-on-white seed jar/colander, A.D. 1100-1275; metal cache box, 1893. COURTESY OF GCNPMC

This inclusive policy has led to a democratic collection that is as much about the heartfelt stories of ordinary people and their connection to the park as it is about the characters, objects and events that make the history books. To be sure, Hyde's tours routinely include the corrugated leather and gold-plated pen that President Woodrow Wilson used to sign the Grand Canyon National Park Act on February 26, 1919, or the pocketwatch used by Maj. John Wesley Powell on his famous Colorado River runs in 1869 and 1871.

But just as profound is the paraphernalia donated by Harvey Butchart, record-holder for the greatest number of miles hiked in the Canyon. He bequeathed copies of his journals and hiking logs along with his soiled orange backpack, canteen and hiking boots. Hyde has an unerringly good eye for the best of the collection. Here are some of her favorites:

The archives has a natural history collection that spans a mind-boggling array of 100,000 items, from the fossilized castings of worm burrows and bird skins to an unidentified pickled intestinal parasite the size of a Cuban cigar. Among the most astounding, however, are the remains of a giant sloth. All that's left of this now-extinct creature is a skull, pelts of hair with still-pliable wheat-colored strands, and softball-sized fecal pellets, known as coprolites, which still exude their distinctive aroma when stored in enclosed spaces. Measuring some 6 to 8 feet long, this animal roamed the desert terrain of grass and sagebrush sometime between 11,000 and 40,000 years ago. The sloth remains were collected back in the 1930s from Rampart Cave. In the mid-1970s a curious park visitor toured the cave, dropping a lighted torch before exiting. It triggered an extinction of another kind. The flame set fire to deposits of animal dung that were millions of years old. Among the animals that contributed to the coprolite stores were saber-toothed tigers, cave bears and Harrington mountain goats, all of which are now extinct. It took more than a year for park personnel to extinguish the smoldering fire.

"The Grand Canyon is one huge archaeological site," Hyde points out. Among the signature items in the archives are what archaeologists refer to as split twig figurines. Carbon-dated to between 2,000 and 5,000 years old, they are among the Canyon's most ancient human artifacts. Found almost exclusively in the Grand Canyon, these animal effigies are fashioned from a single branch of split and twisted willow. First discovered in caves by three Civilian Conservation Corps workers in December 1933, these mock animals were once thought to be children's toys. But scientists also believe they may have been hunting talismans.

Long before the advent of satellite phones, Canyon visitors communicated with one another via written messages. They range from pleas for help to simple commemorations. In 1902, for example, Buffalo Bill Cody and his entourage posed with their rifles in hand for a portrait on McKinnon Point. Decades later, a hiker found a can tucked into the rocks with a piece of paper bearing the signatures of Cody and his party.

Not all of the Canyon's missives, however, mark such happy occasions. On February 19, 1929, three park rangers on an expedition down the river signed their names on a piece of paper and placed it into a Prince Albert can. The following day their boat overturned and two rangers drowned. The can and its contents were later recovered by rescue workers.

One of the most extraordinary communiqués was deposited in a metal box by a Good Samaritan in the 1890s. Discovered under a Canyon overhang in the 1970s, the box contained a smattering of items that a lonely, desperate miner might need: a sewing kit, tobacco pipe, tea towel, matches, fishhooks, measuring tape, playing cards, soap and vials of medicine. Best of all, the owner left a few items for the finder's amusement, including a bottle of beer (complete with a Prohibition pamphlet warning of the dangers of drunkenness). The donor also inserted a notebook in which he asked for the return of a simple favor:

"This cash [*sic*] was made by L.C. Reese on the fifth day of February 1893. If you need anything in it be sure to take it and welcome but do not destroy or waste anything and you will oblige."

The Grand Canyon landscape has been the stuff of great art—and fodder for the imaginations of a few lesser lights as well. The collection, for example, contains its share of low-brow titles, such as the pulp romance *Nurse of the Grand Canyon* by Virginia Smiley.

And then there are the postcards. Take the "Burrometer" card. Postmarked in 1952, the card describes Canyon weather conditions using the tail of a cartoon burro. An upright tail, for example, indicates gale-force winds, etc. Remarkably, the attached tail on the card survived the journey through the U.S. postal system.

Some visitors are so moved by their Canyon visit that they feel compelled to document the experience—sometimes in very unconventional ways, as did Larice Burtt of Pennsylvania. Several years ago Burtt shipped a rock the size of a basketball to the archives. On it she painted a travelogue of her family's adventures on a Colorado River rafting trip through the Canyon. With charming, almost kinetic energy, Burtt's sunny folk-art scenes capture the simple bliss of flowing through one of the world's most beautiful landscapes with people you love. AH

Adelheid Fischer is a freelance writer who makes her home at the foot of South Mountain in Phoenix.

when you go

Location: 80 miles north of Flagstaff.
Getting There: From Flagstaff, drive west on Interstate 40 for 30 miles to State Route 64 at Exit 165. Drive 55 miles north on State 64 toward Williams and the Grand Canyon. Take a left onto Center Road for one mile and then make a left onto Albright Avenue. The museum is located across from the Albright Training Center.
Hours: Monday through Friday, 8 A.M. to 4 P.M.
Additional Information: Appointments are recommended. (928) 638-7769; www.nps.gov/archive/grca/photos/museum.htm.

INTO THE MAW

HERMIT RAPIDS TEACHES THE MEANING OF LIFE — AND THE VALUE OF FEAR

TEXT AND PHOTOGRAPHS BY GARY LADD

The Colorado River suddenly panics. The waters surge forward like a theater crowd reacting to a puff of smoke from the curtains, racing for the only exit—Hermit Rapids.

I'm one of four boatmen studying Hermit Rapids from river's edge, a scene so ominous that someone once said, "When you see Hermit, you'll turn in your permit." The butterflies in my stomach flitter, settle, then flitter again. I glance up to the Rim and wonder why I'm down here on the floor of the Grand Canyon dealing with brutish rapids when I could just as easily be up there at the Rim in the cool, carefree world of Mohave Point.

MONUMENTAL SUNRISE Ninety-three river miles from Lee's Ferry in the Grand Canyon, steely light from the rising sun glints off Granite Rapids' turbulence, formed by deposits of debris flushed from Monument Creek into the Colorado River.
To order a print of this photograph, see page 1.

FOAMIMG LAVA **In this 1975 photograph, Gary Ladd (with his brother, Greg, gripping the bow) guides his dory, *Tatahotso*, through Lava Falls Rapid's foamy 13-foot drop in the Colorado River. An area of relatively recent volcanic activity, river explorer Maj. John Wesley Powell imagined it as "a conflict of water and fire," although the rapids are formed by debris flows from Prospect Canyon to the south.** ROD SCHULTZ

Gaining momentum with each iteration, the standing waves of Hermit rise higher and steeper until the fifth wave becomes an ugly, frothing ogre, dedicated to the destruction of all small, oar-powered boats that come within reach. Boats like ours.

Our scouting deliberations stretch to almost an hour. Our comrades grow restless as we watch another group row the gauntlet: One boat dumps everyone into the river except a single passenger cowering on the floor. Another boat comes within a whisker of flipping end-over-end. More deliberations, then finally we're ready, resigned to our fates.

With life jackets double-checked and boats scanned for hazards, we shove off and fall into line. One by one we drop over the brink.

Each boat follows a different line based on the boatman's daring and the caprice of the currents. I choose a very conservative route, a little hairy at the beginning, agreeably boring below. A couple of minutes later, we're all safely beyond the tail waves with some boats having had a wild, wet ride—intended or not.

When I rowed my first Grand Canyon rapid almost 40 years ago, I was thrilled by the experience. I couldn't wait to run still more. *Bring 'em on!* I thought. Today it's different. One young kayaker on our trip, talking to a young kid from another boating group said, "They were scared!" as if this were unimaginably silly. That was me 40 years ago, young and blithe.

Rapids are central to the experience of river-runners—intoxicating and petrifying, marvelous and ghastly.

In the Grand Canyon, almost all rapids are created when acres of boulders are bulldozed into the Colorado River by catastrophic floods and debris flows that spilled from side canyons. This is why many side canyon hikes begin near rapids. This is why many campsites are near rapids—they develop on the relatively flat, broad terrain provided by the debris fans. And this is why our camps are almost always serenaded by the song of a whispering or blustering rapid.

In the 17 days it takes to travel 226 miles from Lee's Ferry to Diamond Creek, we'll run about 75 medium to large rapids. Most will be a joy—we'll just float down the middle, splashing and laughing through the waves. Only about a dozen will compel us to scout ahead. Four or five of these will cause some anguish.

Shooting the rapids, exploring the side canyons, camping on the beaches, hiding from the midday sun are all part of the stream of life. The rapids, however, are the lifetime's benchmarks. This is especially true of one 23-mile stretch studded with exploding waves, hungry holes and in-your-face rocks that form nine major falls contributing to a total drop of 250 feet.

The Colorado River begins this wild plunge with the 30-foot drop of Hance Rapids—the largest single fall in the entire Canyon. Then comes Sockdolager at 19 feet; Grapevine, 18 feet; Bright Angel Rapid (sometimes called the Devil's Spittoon), 25 feet; Horn Creek, 10 feet; Granite Falls, 17 feet; Hermit, 15 feet; Boucher, 13 feet; and Crystal, 17 feet.

The series begins just where the river slips into Upper Granite Gorge, the Canyon's most austere and majestic corridor, a gateway to a world of roaring waters and soaring cliffs.

Here, mistakes matter. Boatmen can lose track of their shoreline markers and enter the wrong chute. Lateral waves can surf a boat into angry holes. Whirlpools can whip a boat around sideways and backward. Oars break. Ropes part. The great pyramid wave in Sockdolager can flip a rowing rig with indifference. Granite Falls can jam a boat into "Forever Eddy." Crystal Rapids can flip a boat, drive it into the left cliff, plaster it onto midchannel rocks or reward a deserving boatman with all three.

But despite the severity of its cataracts, the Colorado River is oddly forgiving. On an average summer day, every second throws 500 tons of water into Crystal Rapids. It bellows with energy. And yet, rarely is anyone seriously hurt, even when boatmen blunder. Life jackets, modern equipment and a half-century of rational river-running techniques can be credited for this wonderful paradox: Most river-running accidents occur on shore.

Mostly, I run the river to photograph it. Backpacking also works, but after more than 80 trips and many years, my backpacking career is winding down. That leaves river-running. Rapids. Apprehension. Trembling. All in the quest for images of the Canyon and its river.

I've learned a few things: First, I'll never see all the side canyons. There are far too many of them.

Second, it takes time to become an adult capable of appreciating everyday river wonders and coping with everyday river disasters.

Third, a little fear is valuable therapy—at least that's what I tell my passengers.

Fourth, a river trip is like life—the routine pleasures of the long float on still waters—punctuated occasionally by moments of terror, heartache and rapture, too.

And, finally, the fantastic will happen. On one single afternoon, I saw an expert boatman flip his dory three times in Crystal Rapids. Once, I came so close to smashing my dory into the wall below Horn Creek Rapid that my forward passengers fled in terror for the stern. Thirty years later we still talk about it. Every time I embark on a Grand Canyon river trip, I pack the same hopes and fears. What will happen in the rapids? Will I find new miracles to photograph? Will someone fall in or out of love? It's unnerving to embark on an uncertain life.

But you cannot avoid an occasional wreck without also skipping the exhilarations.

I try to keep all this in mind as I prepare to enter Crystal Rapids, or the world of digital photography.

As usual, I'm scared. AH

Gary Ladd always wishes he were in his bed at home in Page as he guides his dory into Hance Rapids, Crystal Rapids and Lava Falls. But he feels even worse when he misses a chance to go on a Grand Canyon river trip.

Surf's Up: Five Whitewater Rafting Outfitters

By Michael Famiglietti

Among crashing water and the sound of teeth grinding each other down, the promise of thrills outweighs fear. Rafting the Colorado River's 277 river miles running through the Grand Canyon turns knuckles as white as the water. River trips fill up quickly, so make a reservation well in advance.

HUALAPAI RIVER RUNNERS

The only Indian-owned rafting company takes visitors on a 12-hour whitewater dash on the Colorado River through the Hualapai Reservation. Beginning at Diamond Creek, the trip includes a series of Class 3 rapids and a hike to Travertine Falls. Boats hold up to eight people, and trips cost $299 plus tax, per person. Senior citizens, active military personnel and Native Americans receive special rates. Children must be at least 8 years old. The Hualapai Lodge provides accommodations in Peach Springs, the tribe's administrative headquarters. (928) 769-2219; www.destinationgrandcanyon.com/runners.html.

WILDERNESS RIVER ADVENTURES

Trips include the "Best of the Canyon," a six- to eight-day tour for 15 people along 188 river miles, from Lee's Ferry to the Bar 10 Ranch, and include the Class 7 or 8 Hermit Rapids and Class 7 to 10 Crystal Rapids. A three-day Upper Canyon trip traverses Marble Canyon, with a stop at Vaseys Paradise, ending at Phantom Ranch. A more personal experience awaits those brave enough to take river trips in oar boats in groups of four to six. Prices range from $1,200 to $2,510 for motorized trips and up to $3,500 for a 16-day oar trip. (928) 645-3296 or toll-free (800) 992-8022; www.riveradventures.com.

WESTERN RIVER EXPEDITIONS

Western River's Grand Canyon raft trips offer three to seven days of cruising the rapids, searching out grottos and spending calm evenings by the Colorado River. Special tours combine rafting with Western horseback riding at a working cattle ranch. Trips also feature the Canyon's hidden waterfalls. Prices range from about $950 to $2,500, depending on the duration and season. (866) 904-1160; www.westernriver.com.

ARIZONA RIVER RUNNERS

Created in 1970, this company offers seven different trips, ranging from a 13-day oar-powered ride to a three-day trip to Lake Mead. Rafting, combined with geology and natural history lessons, offers an outdoor experience to people of all skill levels. Prices range from approximately $950 to $2,900, per person, depending on the date, with discounts for children and off-season trips. (800) 477-7238; www.arizonariverrunners.com.

ARIZONA RAFT ADVENTURES

This family owned operation aims to protect the environment while offering the thrill of riding the rapids. The guides teach raft trippers about the Canyon's endangered species, minimal-impact camping and recycling. For anyone 10 years and older, the motor, paddle and oar trips provide the chance to explore. Motorboats hold fewer people and provide a more leisurely outing, while other vessels require an active approach. Hybrid tours combine hiking with kayaking or rafting. Most trips include hikes down Bright Angel Trail and camping beneath the stars. Rates for motorized eight- to 10-day trips range from $2,100 to $2,600. Toll-free (800) 786-7238; www.azraft.com.

HERMIT'S REVENGE **At mile 95 in Upper Granite Gorge, Hermit Rapids' standing fifth wave dares all comers to shoot through intact and upright, as seen in this series in which the first boat (far left) has lost its pilot, and the far-right kayak has overturned.**

Mule Sense

Grand Canyon mule skinner gulps, swears and gets used to living on the edge

BY LEO W. BANKS
PHOTOGRAPHS BY DAN COOGAN

EVERYTHING WENT RIGHT for mule skinner Jeff Pace today. A bright moon shining off the snow turned the predawn darkness into daylight, taking some of the treachery out of the South Kaibab Trail into the Grand Canyon.

But things don't always run so smoothly when your job involves leading jittery pack mules all the way to the Colorado River on a winding trail that drops off to the great wide-open. If you happen to sail over the edge, having good light is a decidedly mixed bag. It only means you'll enjoy terrific views for a few seconds before you land.

"The worst is going down in the dark," says Pace, a bright-eyed 33-year-old whose ancestors helped settle the Arizona Strip. "In front of me, I can only see my mule's ears. If I turn around on a steep switchback, I only see the feet of the mule behind me. It can be nerve-racking."

At the moment, Pace is slogging through the mud in his corral, not far from the East Rim. It's early on a cloudless afternoon. Pace and assistant J.D. Hogue are trying to get a bridle on a new mule named Soiled Dove, who also needs winter shoes to better grip the trail ice.

But Soiled Dove is suspicious of their attention. She stomps and flaps her tail, letting Pace and Hogue know that whatever they have in mind, she's against it. They approach with extreme caution. Hogue calls her name hoping she'll relax. She snorts instead.

A visitor asks if mules can recognize their names. "If they've been cussed out enough, they'll look up," Hogue says.

As the Canyon's head packer, Pace knows that success in his job—and staying out of the emergency room—requires understanding the personalities of his animals. Except for smelling like heck and having rotten attitudes, they're all different.

But when they join Pace's stable, the mules share one key common experience. Like people, they encounter that "holy mackerel" moment when they first see the Canyon. It's what happens next that matters.

When Soiled Dove came to her first switchback, she froze like an iceberg with a tail. So Pace tied his lead rope around one front foot, a piggin string around the other, and commenced yanking. "We literally pulled her around the switchback," he says. "After that she was all right."

Five mornings a week, Pace and an assistant lead a train of four or five mules down the South Kaibab Trail to Phantom Ranch. He leaves his cabin at 4:30 A.M. and walks 75 feet to his barn and corral to pack eggs, tomatoes, canned goods and other supplies for the guests and staff at Phantom Ranch onto the backs of his animals.

At about 5:30, he hits the trail, covering the 7.5 miles in about 2.5 hours. He unloads, has breakfast, reloads the mules with sacks of garbage and off he goes, topping out of the "hole" again by about 1:30 P.M.

Sounds simple. But the Canyon makes for one of the most difficult packing jobs in the world. "It's as unforgiving as any place on Earth," says Ross Knox, one of Pace's predecessors. "You screw up there and it's taps."

For most of its length, the Kaibab goes either straight up or straight down. Winter temperatures can plummet to 15 degrees below zero, and summer highs soar to 115 degrees.

The first part of the trail bends through a maze of switchbacks called the chimney, because the wind roars through them like you're standing in one. The packer has a rock wall at one shoulder and open air at the other and a 3.5-foot-wide trail underfoot. If something goes wrong, he has virtually no room to bail.

At the bottom, the pack train passes through a 60-foot tunnel cut through rock, and immediately crosses a 440-foot suspension bridge over the Colorado. Going from light to dark to light again, then onto a bouncing bridge above moving water can give mules the jimmy legs or worse.

Even so, Pace has never had a serious accident. But he's come close. Lately, one of his mules, Shasta, has been putting her front feet onto the bridge leaving Phantom Ranch and sitting down.

When Shasta did this recently, it tugged on the rope connecting her with Cletus, the mule Pace was riding. Cletus fell, pinning Pace to the side of the bridge. "We both went to the ground," he says. "It amazes me that I didn't get hurt."

On another trip, a mule named Easy—so named because it was easy for him to get into a wreck—stepped off the trail and came to rest 40 feet below. The animal required numerous stitches to close some head gashes. But the experience changed Easy for the better.

"It knocked some sense into him," says Pace. "He had 'people issues' before, and now he wants to be my friend. I'm not sure why, except maybe he liked the doctors. Mules never forget."

Neither does Knox, who achieved near-legendary status in almost 17 years as the Canyon's head packer, departing the job in June 2005. He saw it all at the Canyon, including having bighorn sheep run crazily into his string of mules during fall rutting season.

"You're in front so it's up to you to settle the mules," says Knox, who now packs for Saguaro National Park in Tucson. "But it's hard. You don't want to yell because it'll stir them up. Don't move, don't breathe and maybe we'll get through this."

Knox's reputation stems from his ability to pack almost anything into the Canyon. He took kayaks down, water heaters, even a 26-inch TV set. His weirdest cargo? Fifty pounds of live lobsters.

The staff at Phantom Ranch, suffering a serious seafood craving, pooled their tip money to buy them, and asked Knox if he could make the delivery. No problem.

Back at the corral, Pace successfully gets Soiled Dove shipped to the blacksmith for new shoes. The animal has gone into the Canyon only six times, but Pace likes what he's seen so far.

"She's gentle and doesn't seem to have too many quirks," he says. "But some of these mules use their intelligence for evil plots against people. That's their entertainment."

Knox, an accomplished cowboy poet, puts it more lyrically: "If you get in a tight spot, get out your Crayolas and color yourself screwed, because they'll do it to you every time."

But having such obstinate co-workers didn't dim Knox's appreciation for what he called the best job he's ever had.

"There are usually no other humans in sight, and it's so beautiful," he says about the Canyon. "It's phenomenal to go to work every day in one of God's greatest creations."

Pace agrees. "I've got the best office in the world," he says. AH

MULE BOOT CAMP **Mule skinner Ross Knox not only handles harsh heat and treacherous trails, he knows how to deal with the bad attitudes of his fickle four-legged friends.**

MULE TRAIN **Before a mule is qualified to carry people down Grand Canyon trails, the animal must train (above) for 18 months and be at least 4 years old.**

Tucson-based Leo W. Banks would never trust his life to a cranky mule, and thinks Canyon 'skinners should get combat pay for doing so.

After 20 years as a photographer, Dan Coogan of Phoenix just learned how difficult it is to control a mule, let alone six at one time.

by Christa Sadler illustration by Joseph Daniel Fiedler

Canyon Ghosts

A boatman's tale turns on sounds in the dark in a hidden slot

I DON'T REALLY BELIEVE IN GHOSTS. I've heard stories from other boatmen, about seeing strange shapes and hearing voices on the wind in the Grand Canyon's ruins from nameless shadows and shapeless figures. Yeah, right. Put the tequila down, boys. I've always been way too practical to believe it.

It was a dark and stormy night—no kidding—in 1992, and we were about halfway through a month-long Canyon trip with Prescott College. Andre, Julie and I were instructors traveling with 11 students.

We were camped at Blacktail Canyon for the night, Mile 120. Blacktail is my favorite place in the Canyon. It's like a church to me. It has always been a welcoming place. For years now, my river company has made a practice of doing a silent hike up the narrow, twisting side canyon. I like this, because if you spend your time talking, before you know it you've walked the quarter-mile to the end. But if you're quiet, the walls close in and surround you. They're plum-colored Tapeats sandstone, and they bend in over your head, so that only a narrow strip of sky remains. It's absolutely still in that place, and drops of water fall with a resounding noise into the pools that you pick your way over and around. Sometimes a canyon wren sings, or thunder rumbles over the North Rim, and it sounds like it's coming right out of the walls. This is where I sing, where the string quartet plays, where any boatman with a guitar or a flute comes to make special music.

It was raining pretty hard by the time we finished dinner, and the students all retreated to their tents scattered among the boulders. Andre and I knew there was a deep overhanging ledge of sandstone at the entrance to the canyon where we could lay out our bags and sleep unmolested by rain and snow. The canyon's mouth at my side yawned wide and so black I couldn't see my hand in front of my face.

"Listen," Andre said, "I hear drumming." I listened, and looked to my right. The canyon mouth got a little darker. "It's just the rapid, Andre. Let's get some sleep."

An old man comes to me, holding a stone knife. He has long, white hair and wears something around his neck. I can't see his face. He says nothing, but somehow I know that he wants to show me something. Something horrible. I feel death, but not mine. I'm not supposed to be here. I should leave. Now. "They" want us out of here. The old man is telling me this, only without words. I am so scared I'm rigid. The only things that work are my eyes, watching the darkness of the canyon mouth. I feel myself trying to break the paralysis. I can't wake up. I try again and again until I literally drag myself out of sleep. I feel like I've come back from someplace very deep and far away. . . .

I lay there, heart pounding. The first thing I heard was the resonant drumming of the rapid off the walls. I couldn't even look at the mouth of the canyon—it was too dark and bottomless, threatening. Finally, I got up enough guts to speak.

"Andre, are you awake?" I whispered anxiously.

"Yes," he said in a tense voice.

"I had a terrible nightmare," I told him.

"So did I." I felt the hairs on the back of my neck prickle.

"What was yours about?" I asked him.

"I don't know. I just know it was something horrible." My stomach turned over. "We're not supposed to be here, Andre."

"I know. We should leave right now," he said.

Without another word, we gathered our bags and went out into a driving rain to set up a tent near our sleeping companions. The drumming was gone.

I go to Blacktail Canyon every chance I get. But I will never sleep there at night; I know I'm not supposed to. I've camped there since, on the debris fan. I've sat under the overhang. But I've never heard the drumming again. AH

Excerpted with permission from There's This River: Grand Canyon Boatman Stories, *an anthology of stories and artwork produced entirely by the river-guiding community of Grand Canyon, compiled by Christa Sadler and published by This Earth Press, Flagstaff.*

text and photographs by Gary Ladd

Atop The Battleship

FIRED UP FOR BATTLE Emerging from the depths of the Grand Canyon, glowing fire-red beneath the South Rim, this rock formation is known as The Battleship because of its resemblance to a ship used in the Spanish-American War.

Grand Canyon's interior peaks offer an arduous thrill

ON THE SOUTH KAIBAB TRAIL, I once passed a couple packing an inflatable green alien into the Canyon. While ascending the Bright Angel Trail, I once encountered a man carrying a bicycle across the Canyon. More than 4 miles from the Rim, I once observed a man on crutches hobbling up the trail.

But on this October morning we have resolved to leave such Canyon "pageantry" behind by stepping off the Bright Angel Trail to climb The Battleship, a jutting, rust-red ridge that forms one of the Grand Canyon's interior summits. Our party includes John Beshears and Tom Geiger, who run the park's facility management division and are known locally as the "Maintenance Dudes." In addition, Brad Wallis and Helen Thompson, of the Grand Canyon Association, have signed on for this off-trail adventure.

Two miles down the Bright Angel Trail, we trade the engineered switchbacks, drinking fountains, directional signs and emergency phones for crumbling slopes, fallen trees, loose rocks, thick brush, angry cacti and poor footing. This is great—I'm sometimes abashed to be seen on manicured trails.

"Bushwhacking" to a ridge anchoring The Battleship to South Rim's Mohave Point consumes an hour. At the saddle we rest, guzzle water and study the 500-foot bulk of The Battleship. Cairns mark the hint of trail around the butte's east flank. Partway up, an agave skewers Thompson's leg. She stops to patch, her sock stained a bright red. "No problem," she says.

The trail leads to the base of a seemingly insurmountable cliff. But on closer inspection, a tall cairn on a ledge signals a route through a labyrinth of cracks and ledges. Each crack runs parallel to the cliff face; each is a void created where a block of rock leans away from the butte. Twice we pass under chockstones, rocks wedged in the cracks. What Thompson soon calls the "Bad Crack" requires us to scale a "chimney," legs and arms braced against opposite walls. I subconsciously try not to apply too much pressure on the wall of the block that tilts toward the Canyon.

The maze reminds me of a dubious route I followed down to the Colorado River years earlier, which led down a ravine, along a ledge, into a cave and down through a tiny "worm hole" into a lower cave. This cave led to a cliff face and finally to a chimney under a natural bridge down to the river. On our return as I inched back up that wormhole like a slug in a straw, I was astonished to hear a deep thumping. Mining? The river? No: The thunder of my thudding heart.

The cracks of The Battleship prove less strenuous, and after an hour we scramble up the last crag to the top. I pull out my binoculars and spin around the 360-degree view. Above, I can see people on the Rim at Maricopa Point and Powell Point. Below, I can see hikers trudging toward Indian Garden Campground. I can see Kolb Studio where we started four hours earlier. I look for climbers on other Grand Canyon summits: No one on Zoroaster or Vishnu. No one on Isis or Osiris. We seem to have Grand Canyon's sky islands all to ourselves.

We make our way over broken slabs of sandstone to the north end of The Battleship's summit. There's more air here than rock. Beyond us lies a maze of canyons, slots, buttes, temples, peaks, plateaus, towers and clefts. We consider trying some of the other peaks. Thompson overrules all chimney routes.

By noon we head back. Looking down between my feet, I notice a mule train arriving at Indian Garden from Plateau Point and wonder if we'll beat it home. We emerge from the cracks and the brushy slog back to the main trail covered with scratches and scrapes. By now, I'm not a bit embarrassed to have regained the cushy main trail.

We beat the mules back to the Rim by a whicker. When a woman asks if we've just come from the bottom of the Canyon, we point to The Battleship. She actually gasps, which is sinfully satisfying.

Why do people climb mountains? It's not just the view; it's the camaraderie, challenge, freedom and physical accountability. After leading the first party to the 20,000-foot summit of Mount McKinley in 1913, Hudson Stuck wrote that the climb gives the climber "a privileged communion with the high places of the earth. . . ."

Exactly.

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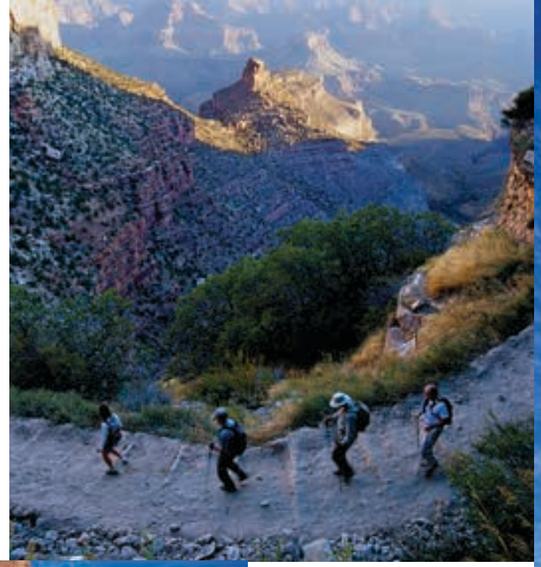


MARCHING DOWN TO MAKE IT UP Traipsing down Bright Angel Trail before they can climb The Battleship, Helen Thompson, Brad Wallis, John Beshears and Tom Geiger (left to right) are en route toward the football-field-sized summit. The hikers take a short breather overlooking Indian Garden (right). Helen Thompson pushes her way through an 8-foot crack (left) while Brad Wallis looks on.

trail guide

Length: 7 miles.
Elevation Gain: 2,000 feet.
Difficulty: Strenuous.
Payoff: 360-degree views and fun scramble up through a series of cracks to the summit.
Location: The Battleship is located immediately west of and above Indian Garden.
Getting There: From Flagstaff, drive west on Interstate 40 for 30 miles to State Route 64 at Williams. Turn north (right) on State 64 and drive 58 miles to the Grand Canyon South Entrance. The route begins at the South Rim of Grand Canyon on the Bright Angel Trail.
Additional Information: The Battleship route is sometimes closed to hikers when California condors nest in adjacent canyons. For details and current regulations, contact Grand Canyon National Park, (928) 638-7888; www.nps.gov/grca/index.htm.

by Anne Minard

Quiet Splendor

A lonely meander to little-known Canyon viewpoints puts the ridiculous into perspective

CIVILIZATION-SICK AGAIN, I needed to be alone. I thought a trip to the Grand Canyon viewpoints in the Kaibab National Forest would offer just the cure. So I rented a little car, loaded up my 14-year-old dog, Shiva, and went.

The idea was to act ridiculous in the company of no one—except the dog, of course, who's seen it all before. I wanted to talk to myself out loud, holler into the Canyon, sunbathe in the buff. I already knew it was possible to do all those things at the west side viewpoints. Frequently I'd enjoyed the primitive little fire ring at North Timp Point in complete solitude, but I'd never checked out the other side, the high edges of forest overlooking the Canyon's East Rim and the Saddle Mountain Wilderness. On this trip, that's what I aimed to do.

One great thing about the Kaibab Plateau north of the Canyon is that most of the roads are within easy distance of the North Rim Country Store and gas station, a good (if pricey) backup for deficiencies in planning. It sells ice, water, basic groceries and serves coffee all day, though in the afternoon you may have to microwave it in its Styrofoam cup. It's a great comfort if, like me, you forget one vital item on every trip. The store, like the nearby historic Kaibab Lodge along State Route 67, stays open generally from mid-May through the end of October, but closes when snow shuts down the highway.

Forest Service Road 610 starts less than a mile southeast of the store, via Forest Service Road 22. The southeast leg leads to Marble Viewpoint (via Forest Service Road 219), intersects the north-south Arizona Trail, passes the trailhead to Point Imperial and dead-ends at the start of the infamous Nankoweap Trail. Both of those trails head south into the park. Incidentally, the Arizona Trail trailheads in that area harbor the only restrooms (man-made and rough-hewn) for miles.

The last few miles of the east end of FR 610 gave me the illusion that I'd been transported to a sandy road on the East Coast. Unlike the high, mixed conifer settings of the west viewpoints, some of the roads on the east side—610 included—are lower in elevation and hemmed in by locust trees and young aspens. Road the color of beach sand adds to the effect. And it's possible to imagine that the fire-scorched snags have actually been lopped off by a hurricane's fierce winds.

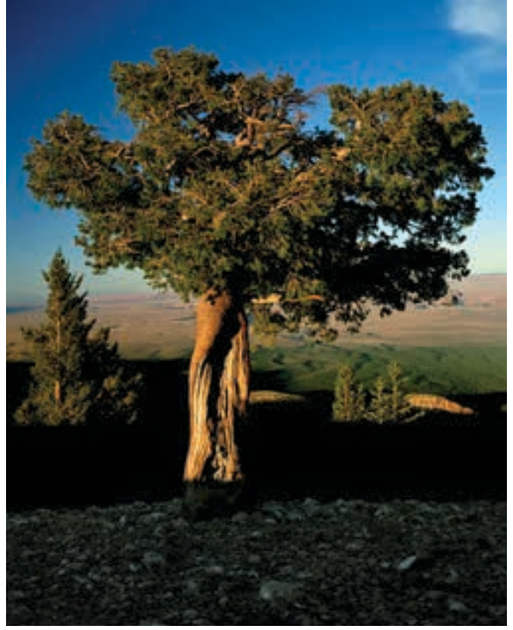
Fredonia resident Duane Swapp, who's retired from the North Kaibab Ranger District after 31 years, said 610 was built wide so land managers could first fight and then clean up the 1960 Saddle Mountain Fire. The northern end of the road was made for logging, along with FR 219 off the south leg and Forest Service Road 611 to the north.

FR 219 darts north from 610 about halfway between the store and the road's southern end. By the time I approached that road, I was spoiled. It was a weekend, and my interactions with people in almost two days had been limited to buying a cup of coffee and issuing the half-hand salute over the steering wheel to less than half a dozen other drivers. So I was disappointed to see a Jeep turn onto 219 ahead of me. Sure enough,

ROAD WARRIORS Ponderosa pines crowd Forest Service Road 610 on the Kaibab Plateau north of Grand Canyon National Park. These mighty trees can grow taller than 125 feet with trunks up to 4 feet in diameter. MOREY K. MILBRADT

ALL ALONE At dawn's first light, two evergreen trees stand at Marble Viewpoint, silhouetted against Echo Cliffs in Grand Canyon National Park. JACK DYKINGA

WILDERNESS WONDER Located in the Saddle Mountain Wilderness, Dog Point rises above scattered low-lying Grand Canyon fog at sunset. The wilderness area spreads out for approximately 40,610 acres and ranges from 6,000 to more than 8,000 feet elevation. JACK DYKINGA



its passengers were at Marble Viewpoint when the road ended rather abruptly at a wide, grassy knoll overlooking the Saddle Mountain Wilderness.

I parked, got out and walked down a little two-track road to the side, shaded by huge overhanging firs. It opened up into a scene straight out of *The Sound of Music*. It would have been tempting to lie down and roll on the gentle slope of that long meadow, if it weren't for all the walnut- and fist-sized rocks. A panoramic view of the wilderness was splotched with cloud shadows. Too bad, I thought, that I couldn't be there alone.

Two-track roads with tall weeds and occasional tree falls, neither 219A nor B was suitable for my passenger car. People have worn rough paths around the tree-falls, but I turned around on one such detour when branches scraped the car's underside. I didn't even try the non-numbered spur from 219B that leads, according to the map, to the Arizona Trail. Even on 219 proper and the southern end of 610, you run the risk of kicking up rocks that bounce against the bottom of a small car.

My next leg—leading to the place where I wanted to spend my second night—was back to the start of 610 and out FR 611, which juts from there toward the East Rim Viewpoint.

At its farthest end, 611 is overgrown and you can't really see the view. But the sites just shy of there, on a little southern spur road about a mile and a half east of the Arizona Trail, boast phenomenal views. There, the long, Painted Desert-hued lowland of the Saddle Mountain Wilderness leads in the far distance to red, cliff-sided canyons descending to the Colorado River. I found a limestone outcrop with the perfect combination of shade for the dog and full exposure for my less sensible goals. I sunned myself until first thunder and didn't see a soul.

Swapp said there was once a mining camp near the East Rim Viewpoint. And you can still see the remnants of an old corral that hosted rodeos in the 1940s and '50s and horseback rides on the North Canyon Trail.

Just north of there, 610 (a.k.a. Dog Point Road) leads northeast to another overgrown dead end. Look for a road to the south, just before there, marked only with a cairn. It leads to the most amazing overlook of all (along with more beautiful campsites). I sat there blissfully alone and gawked vacantly at the view while monsoon storms kept building. Finally, loud rumbles let me know the weather had really arrived. I could make another camp, I thought—solo and surrounded by beauty. But, sore and scratchy from too much sun, low on water and filled with a new peace from being so completely undisturbed, I decided to leave the whole place for some other lone adventurer to enjoy. I offered one more lazy, back-road salute to a minivan—the only vehicle I passed on my way out. AH

PINE POWER **A wind-twisted ponderosa pine survives despite adverse conditions in the Saddle Mountain Wilderness in the Kaibab National Forest. One of seven national forests in Arizona, Kaibab covers 1.6 million acres and borders both the North and South rims of the Grand Canyon.** PAUL GILL

travel tips

Vehicle Requirement: Passenger car.
Warning: Back-road travel can be hazardous if you are not prepared for the unexpected. Whether traveling in the desert or in the high country, be aware of weather and road conditions. Make sure you and your vehicle are in top shape and you have plenty of water. Don't travel alone, and let someone at home know where you're going and when you plan to return. Odometer readings in the story may vary by vehicle.
Additional Information: North Kaibab Ranger District, (928) 643-7395; www.fs.fed.us/r3/kai.

route finder

Note: Mileages are approximate.

- **From Flagstaff**, drive north on U.S. Route 89 for 110 miles to Bitter Springs and U.S. Route 89A, which leads west toward the North Rim.
- **Drive west 55 miles on U.S. 89A.** Turn left onto State Route 67. Arrive at Jacob Lake Lodge. Drive south approximately 30 miles to reach the Kaibab Lodge and North Rim Country Store.
- **From the store, drive** about a mile south to Forest Service Road 22, a wide, well-maintained road that runs east and west.
- **Drive east on FR 22** to reach Forest Service Road 610, which leads to Forest Service Road 219 from the south leg and Forest Service Road 611 to the north.

DAWN'S EARLY LIGHT **The sun rises at Grand Canyon National Park, illuminating the jagged formations of Dog Point and the dense Kaibab National Forest. Many tree species populate Kaibab, including ponderosa pine, Douglas fir, Engelmann spruce, aspen, blue spruce, oak, piñon pine and juniper.** JACK DYKINGA

To order a print of this photograph, see page 1.